

Royal Commission
on Canada's Economic Prospects

Consumption Expenditures in Canada

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by David W. Slater

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ROYAL COMMISSION ON CANADA'S ECONOMIC PROSPECTS

**CONSUMPTION EXPENDITURES
IN CANADA**

by DAVID W. SLATER

MAY, 1957

*While authorizing the publication of
this study, which has been prepared at
their request, the Commissioners do
not necessarily accept responsibility
for all the statements or opinions
that may be found in it.*

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TABLE OF CONTENTS

	<i>Page</i>
Index of Tables	VII
Index of Charts	X
Preface	XI
 1. Introduction and Some Conclusions	
I. Scope, Method and Organization of the Study	1
II. A Few Conclusions of the Study	2
 2. Trends in Canadian Consumption Expenditure	
I. What Trends are Investigated ?	5
II. Total Personal Expenditure on Consumer Goods and Services.	8
(a) The Trends	8
(b) The Relationship of Personal Expenditure and Personal Saving to Income in Canada	11
(c) Consumption—Income Ratios in the United States	13
(d) Relationship of Personal Disposable Income to G.N.P.	14
(e) Short-Run Fluctuations in Consumption	14
III. The Distribution of Consumer Expenditure	16
(a) Introduction	16
(b) National Accounts' Data on Personal Expenditure on Consumer Goods and Services	18
(c) Other Features of the Distribution of Consumer Expenditures	
Consumer durables	26
Services	27
IV. Comparisons of the Distribution of Consumer Expenditure and Levels of Living in Canada and the United States	30
V. Consumer Assets, Expenditure and Debt	31
 3. The Prospects for Total Personal Expenditure on Consumer Goods and Services in Canada	
I. Introduction	48
II. Personal Disposable Income	50
(a) The Steps in Forecasting	50
(b) Net Government Revenue as a Deduction from the Gross Income Stream	52
(c) Gross Business Saving	54
(d) Estimates of Personal Disposable Income, Aggregate and Per Capita	56
III. Aggregate and Per Capita Personal Expenditure on Consumer Goods and Services	57
(a) Introduction and Summary of Projections	57
(b) The Prospects for Aggregate and Per Capita Consumption Expenditures	57

	<i>Page</i>
(c) The Evidence in Support of the Assumptions Regarding the Long-Run Trend of the Consumption-Disposable Income Ratio.....	58
(d) Objective Factors which may Influence the Prospective Consumption Ratio in Canada.....	60
4. Trends and Prospects: The Distribution of Consumer Expenditure	
I. Introduction and General Conclusions.....	70
(a) Scope and Method.....	70
II. A General View of the Prospects for the Distribution of Consumer Expenditure in Canada.....	72
III. Food.....	73
(a) Trends in Expenditure on Food.....	73
(b) Comparison of Trends: Expenditure on Food, the Volume of Food Consumed and Farm Incomes.....	79
(c) Explanations of Trends in Food Expenditure.....	80
(d) Factors Underlying Trend in Food Consumption.....	82
(e) Forecast of Expenditure on Food.....	83
IV. Tobacco and Alcoholic Beverages.....	84
(a) Alcoholic Beverages.....	84
(b) Tobacco Products.....	88
V. Clothing and Personal Furnishings.....	91
(a) Summary of Conclusions.....	91
(b) Trends in Consumption.....	94
(c) Forecast of Expenditure.....	97
VI. Shelter.....	100
(a) Introduction and Conclusions.....	100
(b) Trends in Expenditure on Shelter.....	101
(c) Forecast of Expenditure on Shelter.....	103
(d) Some Implications of the Prospective Personal Expenditure on Shelter.....	103
VII. Durable Household Goods Including Appliances and Furniture.....	108
(a) Conclusions.....	108
(b) Trends in Expenditure.....	108
(c) Explanation of Trends in the Demand for Household Durable Equipment.....	110
(d) The Prospects for Expenditure.....	111
VIII. Household Operations, Other than Furniture and Household Appliances.....	118
(a) Trends.....	118
(b) Comments on the Trends in Household Operation Expenses. Fuel, gas and electricity, telephone.....	119

	<i>Page</i>
Household supplies, maintenance and insurance of movables and moving expenses	121
Domestic service	122
(c) Prospects for Expenditure on Household Operation, Other than Furniture and Household Appliances	123
IX. Personal Expenditure on Transportation	130
(a) Introduction	130
(b) Personal Purchases of Automobiles	131
Introduction and summary of the prospects	131
Trends in expenditure on and demand for autos	132
Prospective demand for passenger automobiles	135
(c) Personal Expenditure on Auto Operation	143
Introduction	143
Trends in personal expenditure on auto operation	143
Prospects for personal expenditure on the operation of automobiles	144
(d) Personal Expenditure on Purchased Transportation	148
Introduction	148
Trends in personal expenditure on purchased trans- portation	148
Prospects for personal expenditure on purchased trans- portation	151
X. Health and Burial Expenses	153
(a) Introduction	153
(b) Health Care	153
Trends in total and personal expenditures on health care by Canadians	153
Comment on trends in personal expenditure on health care	155
Prospects for personal expenditure on medical care	157
(c) Burial Expenses, Cemeteries and Crematories	158
XI. Drugs, Cosmetics, Toilet Preparations, Miscellaneous Drug Store Products and Personal Care	162
XII. Personal Expenditure on Universities, Private Education, Welfare, Religious and Related Services and Selected Recreational Services	164
(a) Trends	164
(b) Prospects	165
XIII. Other Items of Personal Expenditure	168
5. Questions, Implications and Conclusions	
I. Too Much or Too Little Consumption Expenditure in Canada ?	170
II. Implications of the Changing Pattern of Consumer Expenditure	173
III. Short-Run Fluctuations in Consumption	174

APPENDICES

	<i>Page</i>
A. Measurement of Personal Expenditure on Consumer Goods and Services.....	179
B. Measurement of the Distribution of Personal Expenditure on Consumer Goods and Services.....	181
C. Notes on Chapter 4.....	183
D. Details of Aggregate and Per Capita Personal Expenditure in Current and Constant Dollars.....	186
E. Other Studies to Be Published by the Royal Commission.....	188
Bibliography.....	190

INDEX OF TABLES

	<i>Page</i>
1. Summary of Trends and Prospects—Personal Expenditure on Consumer Goods and Services	3
2. Summary: The Distribution of Total Personal Expenditure.....	4
3. Comparison of G.N.P., Population and Consumption, 1929 and 1955.....	6
4. Canada: Basic Published Data on Personal Disposable Income and Expenditure, 1926-55.....	33
5. Canada: Consumption Expenditure as Percentage of Income—Published Data	34
6. Canada: Selected Data on Personal Savings Ratios.....	35
7. Adjustments to G.N.E. to Obtain Personal Disposable Income...	36
8. U.S.—Selected Data on the Ratio of Consumption to Income...	37
9. Canada: Percentage Distribution of Consumer Expenditure, Selected Years, Current Dollars.....	38
10. A Distribution of Consumer Expenditure in Constant (1949) Dollars.....	39
11. A Distribution of Consumer Expenditures among Durables, Perishables and Services.....	40
12. Consumer Expenditures on Durables and Services.....	41
13. Analysis of Personal Expenditure on Services.....	42
14. Gross Domestic Product—Selected Services.....	43
15. A Comparison of the Distribution of Consumer Expenditure, Selected Categories and Years, Canada and U.S.....	44
16. The Level of Consumption in Canada Expressed as a Percentage of the Level in the U.S., 1947-50.....	45
17. Consumer Credit in Canada.....	46
18. U.S.—Consumer Debt, Expenditures and Assets.....	47
19. Net Government Revenue as Percentage of G.N.P.	53
20. Gross Business Saving as a Percentage of G.N.P.....	56
21. Objective Factors Influencing the Aggregate Consumption—Income Ratio.....	61
22. Summary of Projections of Personal Disposable Income and Aggregate Personal Expenditure on Consumer Goods and Services.....	66
23. Various Projections of Personal Disposable Income in Canada....	67
24. Canada: Prospects for Personal Expenditure on Consumer Goods and Services.....	68
25. Forecasts of Personal Disposable Income and Personal Expenditure—Details	69

	<i>Page</i>
26. Summary of Prospects—Distribution of Personal Expenditure on Consumer Goods and Services.....	74
27. Canada: Prospects for Personal Expenditure on Durables.....	76
28. Canada: Expenditure on Food and Other Data on Food Production and Imports.....	78
29. Canada: Family Budget Data—A Classification of Expenditures on Food.....	78
30. Trends and Estimates of Per Capita Volume of Consumption of Food.....	80
31. Prospects for Expenditure on Food.....	85
32. Canada: Expenditure on and Consumption of Alcoholic Beverages	92
33. Canada: Selected Data and Prospects for Consumption of Tobacco Products.....	93
34. Canadian Expenditure on Clothing and Personal Furnishings....	99
35. Canada: Miscellaneous Data on Consumption of Clothing and Personal Furnishings.....	100
36. Canada: Prospects for Personal Expenditure on Shelter.....	105
37. Basic Data—Expenditure on Shelter.....	106
38. Some Implications of the Prospective Consumer Expenditure on Shelter.....	107
39. Canada: Expenditure on Durable Household Equipment.....	113
40. Apparent Domestic Disappearance of Selected Household Appliances.....	114
41. Selected Data on Household Consumer Durables.....	115
42. Canadian Stocks of Various Consumer Durables.....	116
43. Canada: Prospects for Expenditure on Household Durables, Including Furniture.....	117
44. Canada: Expenditure on Household Operation Other than Purchase of Furniture and Appliances.....	126
45. Home Expenses as a Percentage of All Consumer Expenses, Canada and U.S.....	127
46. Retail Prices of Alternative Energy Sources in Canada and U.S....	127
47. Household Consumption of Energy.....	128
48. Domestic Electricity Consumption in Canada.....	129
49. Percentage of Canadian Occupied Dwellings Containing Specified Electrical Equipment, Selected Years.....	129
50. Price Indexes of Various Items of Household Equipment and Supplies, 1939 and 1952.....	129
51. Prospects for Expenditure on Household Operation, other than the Purchase of Furniture and Appliances.....	130

	<i>Page</i>
52. Canada: Personal Expenditure on Transportation, Selected Years	130
53. Canada: Automobile Population and Sales—Selected Data.	139
54. Cars and Income Per Capita, Canada and U.S.	140
55. Various Projections of Passenger Car Registrations and Sales in Canada	141
56. Canada: Projection of Personal Expenditure on Automobiles. . . .	142
57. Growth in Income, Autos, Expenditure on Auto Operation, in Constant (1949) Dollars	144
58. Personal Expenditure on Auto Operation in Canada	146
59. Canada: Family Budget Data—Expenditure on Auto Operation	146
60. Prospects for Personal Expenditure on Auto Operation	147
61. Current Dollar Expenditures on Various Forms of Purchased Transportation	149
62. Canada: Prospects for Personal Expenditure on Purchased Transportation Services	152
63. Purchased Transportation—Selected Data on Personal Expenditure	152
64. Personal Transportation—Selected Canadian and U.S. Com- parisons	152
65. Personal Health Costs and Personal Expenditure on Health, 1953.	159
66. A Rough Estimate of Canada's Personal Health Bill in Various Years	160
67. Active Physicians and Population per Physician in Canada, 1901-54	161
68. Selected Family Budget Data on Medical Care in Canada.	161
69. Prospects for Personal Expenditure on Medical Care (Excluding Drugs) and Burial Expenses	161
70. Proportions of Total Personal Expenditure on Cosmetics, Toilet Preparations, Miscellaneous Drug Store Items, and Personal Care	162
71. Personal Expenditure on Private Education, Welfare and Religious Services and Selected Recreational and Other Services	167
72. Prospects—Canadian Expenditures on Private Education, Welfare and Religious Activities and Assorted Recreational Activities	168
73. Other Items of Personal Expenditure	168

INDEX OF CHARTS

	<i>Page</i>
1. Canada: Per Capita Disposable Income and Expenditure in Constant (1949) Dollars.....	9
2. Canada: Percentage Distribution of Gross National Expenditure, Various Periods.....	10
3. Canada: The Relationship of Personal Disposable Income to Gross National Expenditure.....	15
4. Canada: Percentage Distribution of Personal Expenditure on Consumer Goods and Services, Current Dollars.....	17
5. Percentage Distribution of Personal Expenditure on Consumer Goods and Services, 1926-29 and 1952-55, in Constant (1949) Dollars.....	20
6. Various Classes of Personal Expenditure, 1952-55 as Percentage of 1926-29, Current Dollars.....	21
7. Canada: Increase in Various Types of Consumption Expenditure, 1926-29 to 1952-55, Constant Dollars.....	23
8. Canada: Increase in Per Capita Expenditure on Various Goods and Services, 1926-29 to 1952-55, Constant Dollars.....	25
9. Consumer Expenditure on Selected Services as Percentage of Total Consumer Expenditure, Both in Current Dollars.....	28
10. Consumer Expenditure on Selected Services as Percentage of Total Consumer Expenditure, Both in 1949 Constant Dollars.....	29
11. The Accounting Relationships between Gross National Product and Personal Disposable Income.....	51

PREFACE

THIS is a study of the growth and distribution of personal expenditure on consumer goods and services in Canada, and with the prospects for consumption expenditure. It is a somewhat primitive attempt to bring the consumption experience in Canada to bear on the general tasks set for the Commission.

The study was carried out in the general orbit directed by Prof. Wm. C. Hood; for his help I am very grateful. For some time I was assisted by Prof. H. E. English of Carleton University; his aid was greatly appreciated. Common interests led to close association with Mr. D. H. Fullerton, much to my benefit. The study could not have been carried out at all, in the time available, except for the wonderful co-operation of the Research and Development Division of the Dominion Bureau of Statistics, particularly F. H. Leacy, D. H. Jones and W. J. Purcell of that division. Mr. T. H. Bocking, of the Department of Trade and Commerce also provided helpful counsel and data.

I would also like to thank Mr. D. V. LePan, the Secretary of the Commission, for his endless help and stimulation; the Commissioners for their interest in the work; and the Board of Trustees of Queen's University, who, by granting a year's leave of absence, permitted me to undertake this study and other work for the Commission.

DAVID W. SLATER

Kingston, Canada.

May, 1957.

INTRODUCTION AND SOME CONCLUSIONS

THIS is a study of the growth and distribution of consumer expenditures in Canada. More than three-quarters of our net incomes or about two-thirds of our Gross National Product (G.N.P.) are used directly to meet our personal desires to consume goods and services. The importance of consumption activities is not to be judged merely by the size of these fractions; in a fundamental sense the consumer is supreme in our society. On the one hand, consumption of goods and services is the overwhelmingly most important object of Canadian economic activity. On the other hand, the individual consumer is considered to be, in most matters, the best judge of what is in his interest. The growth of the economy as a whole and the growth of various industries depends on the behaviour of Canadian consumers.

I. Scope, Method and Organization of the Study

The main purpose of the study is to provide directly some indication of the role of personal expenditures in Canadian economic growth. Is more or less of our national product devoted to consumption activities now than in the past? Why? Is there any trend of change in the proportion of personal incomes which Canadians spend on consumer goods and services and save? What is the basis of such trend? Are Canadians devoting larger or smaller shares of their expenditures to the purchase of food, or shelter, or durable goods? Why? What are the probable future trends in the distribution of personal expenditure among the wide variety of competing alternatives? Such matters as these form the main body of the study.

The essay involves considerable forecasting activity. In large measure, these ventures were designed to assist various of the other studies prepared for the Commission. For example, in the study of housing and social capital it was useful to have some explicit information on past trends in consumer expenditure on shelter and on health services and on education, and to ask about the levels of consumer expenditure implied by various forecasts of housing construction, and health services. Similarly, since the prospects for

various secondary industries in Canada depend on the growth and distribution of consumer expenditure it was useful to bring these data to bear on the study of secondary industry.

Both in the analysis of past trends and in forecasting trends in Canadian personal expenditure, this study should be described as a limited, somewhat impressionistic and somewhat superficial piece. There is a surprisingly small body of published work on the level and distribution of consumer expenditure in Canada. The resources available to the Commission for this study were necessarily limited. Thus the conclusions of this essay should be regarded as rough and tentative. Even so, it is far better to bring systematically the important body of data on consumption and consumer expenditure to bear on the Commission's work than to ignore the evidence or to use it in a piecemeal fashion.

The study is organized into three main chapters. Chapter 2 contains a description of the historic trends in total Canadian consumer expenditure and personal saving, and the distribution of that expenditure. Chapter 3 deals with the analysis of trends in aggregate or total consumer expenditure and personal saving, and with the prospects, focusing attention primarily on long-run consumption and saving possibilities. Chapter 4 is concerned with the trends in various classes of personal expenditure and sets out our view of the prospects for various types of expenditure. A brief final chapter is included; this explores a few of the implications of the prospective level and distribution of personal expenditure, and deals with the problems of adjusting the consumption and personal savings to various economic circumstances.

Four appendices are also included. The first deals with the measurement of total personal expenditure and saving in Canada, and the second treats measurement of the distribution of personal expenditure in Canada. The third appendix is concerned with the basis of some of the forecasts in Chapters 3 and 4. The last is a table setting forth details of aggregate and per capita personal expenditure in both current and constant dollars.

II. A Few Conclusions of the Study

Canadians now enjoy high average levels of consumption of goods and services in comparison either with their own past experience or with the present position in most other countries in the world. The prospects are for further large increases both in the consumption of goods and services and in the leisure available to Canadians.

Personal expenditure accounts for a smaller fraction of G.N.P. now than it did three decades ago, mainly because of the larger fraction of the nation's output used to meet government expenditure on goods and services. Out of their personal disposable incomes, the fractions devoted to consumption expenditures and to personal savings by Canadians appear to be about the same now as under full employment conditions in the past. In other

Table 1

**SUMMARY OF TRENDS AND PROSPECTS—PERSONAL
EXPENDITURE ON CONSUMER GOODS AND SERVICES**
(all value data in constant 1949 dollars)

Item	Average 1926-29	Average 1952-55	Prospects	
			1965	1980
1. G.N.P. in millions.....	8,350	20,333	32,400	61,800
2. Personal expenditure on consumer goods and services.....	5,810	13,204	21,300	41,600
3. Per capita personal expenditure on consumer goods and services.....	597	880	1,090	1,560
4. Index of G.N.P., 1952-55 = 100.....	41	100	159	303
5. Index of personal expenditure on consumer goods and services, 1952-55 = 100.....	44	100	161	315
6. Index of per capita personal expenditure on consumer goods and services, 1952-55 = 100	68	100	124	176

SOURCE: Line 1 and the population estimates for calculation of Line 3: Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

words, as our standards of living have increased, there has been little change in the average fraction of our personal disposable income which we save. Our judgment is that the ratio of consumption expenditures to personal disposable income and the ratio of personal saving to income will be about the same in the future as in recent years. Of course, there have been and will continue to be short-run fluctuations in the ratio but our interest is primarily in the long-run trends.

As our incomes have increased, smaller fractions have been required to meet the minimum physiological needs of food, shelter and clothing. However, it is our socially determined desires or tastes, rather than our physiological needs, which are relevant to explaining the pattern of consumer expenditure. In fact the fraction of our incomes devoted to purchasing food, clothing and personal furnishings, shelter, domestic service, household cleaning supplies and commercial transportation services have decreased during the last quarter century. The surprising thing is how little the fractions have declined; for example, food and fuel take only slightly smaller proportions of our budgets now than they did in the later 1920's, despite the fact that the average per capita real income is about 45% larger now. The explanation of the surprisingly rapid increase in expenditure on food, clothing, and fuel is partly a matter of the improved quality of the items we now buy, and partly a matter of buying goods in much more convenient and time-saving forms. We buy frozen food, prepared breakfast foods, fresh and cleaned vegetables, prepared salad dressings, roasted chickens and so on; whereas 30 years ago we might have bought fresh turnips for storage, and berries in season for home-canning, oatmeal, vinegar to make salad dressings at home and live fowl. It is our expectation that the average quality of goods demanded by Canadians will continue to increase; that the transfer of food preparation activities and the manufacture of clothing from the home to the commercial sectors of the economy will continue, that Canadians will have a strong preference for goods which can be used or which will do various

tasks in more convenient and time-saving ways. While we believe that smaller fractions of personal expenditure than at present will be devoted to food, clothing and personal furnishings, shelter and fuel, the rate of decrease in the proportions is not expected to be large.

Perhaps more interesting are the classes of expenditure which have increased more rapidly than the average in the past. These include the purchase and operation of automobiles, the purchase of consumer durables, tobacco products and alcoholic beverages, drugs, cosmetics and toilet preparations and some types of recreational expenditure. More recently, rapid increases have taken place in personal expenditure on hobby and sporting equipment. The average Canadian's stock of personal and household durable goods has increased greatly over the last 30 years, and this trend is expected to continue. There are exceptional factors explaining the relatively rapid growth in expenditure on tobacco products and alcoholic beverages in the past, and these items are not expected to account for larger shares of our budgets in the future. The fractions of our incomes devoted to health services, drugs, recreational activities and hobby and sporting equipment are all expected to increase substantially in the future.

The picture is one of a rich people becoming richer, of households with the time and means for increased use of sporting and hobby equipment and travel, of a people with few servants and many items of household equipment, of a nation with fairly low standards of housing but many automobiles. It is a picture of an acquisitive society, the members of which are prepared to work for but expect substantially higher levels of material living.

Table 2

SUMMARY: THE DISTRIBUTION OF TOTAL PERSONAL EXPENDITURE

(percentage of total personal expenditure)

Item	Average	Average	Prospects	
	1926-29	1952-55	1965	1980
1. Food.....	29.9	27.0	26.0	24.5
2. Tobacco.....	2.4	3.3	3.5	2.7
3. Alcoholic beverages.....	3.0	5.4	5.5	5.5
4. Clothing and personal furnishings.....	13.9	12.4	11.8	11.2
5. Fuel, electricity, gas, telephone, household supplies, insurance, moving expense, repairs to furniture and appliances, domestic service, home furnishings.....	10.0	8.3	8.5	8.5
6. Furniture, household appliances, radio and television sets.....	3.6	4.4	5.0	5.5
7. Space rent, explicit and implicit.....	12.9	10.0	9.5	8.5
8. Purchase and operation of automobiles....	7.0	10.7	10.9	11.9
9. Purchased transportation.....	2.4	1.9	1.8	1.7
10. Personal and medical care.....	6.1	6.9	7.3	8.4
11. Miscellaneous.....	8.8	9.6	10.2	11.8
12. Total personal expenditure.....	100.0	100.0	100.0	100.0

NOTE: The figures may not add exactly to 100.0 due to rounding.

SOURCE: Table 26.

TRENDS IN CANADIAN CONSUMPTION EXPENDITURE

I. What Trends are Investigated?

Canadians now enjoy high average levels of material comfort in comparison with either their own past experience or the contemporary position in most other countries in the world. This chapter is primarily concerned with description of long-run trends in personal expenditure and saving in Canada and with comparisons between Canada and other countries. Have the real levels of income and consumption in Canada increased? By how much? Do Canadians, in their personal accounts, save larger or smaller fractions of their incomes than they used to? What is the distribution of consumer expenditure in Canada among various activities or various types of goods and services? Have there been any marked secular shifts in this distribution? What are the main differences between the levels and patterns of living in Canada and in other countries, notably the United States? Has the change in the level and pattern of Canadian consumer expenditure been reflected mainly in demands for the output of Canadian primary products and manufactured output, or has the impact fallen mainly on the demands for distributive services or imports? What has been the growth in the use of consumer credit in Canada, and how was this related to the changes in the levels and patterns of consumer expenditure?

The questions are simple enough, but satisfactory answers about long-run trends are not always so easy. Section II of this chapter focuses on growth in the level of personal expenditures on consumer goods and services in Canada. Section III is concerned with trends in the pattern of those expenditures, that is, with description of those expenditures which have grown more and less quickly. Section IV is devoted to international comparisons of the distribution of consumer expenditure and Section V is concerned with consumer assets, expenditure and debt.

Before turning to the description in detail, we might indicate some of the conclusions. As the real national output per capita in Canada has increased, so has the level of real consumption expenditures per capita,

though consumption accounts for a somewhat smaller fraction of the national output now than it did in the late 1920's. The somewhat slower growth in consumption than in G.N.P. primarily reflects the increased fraction of the nation's output used through government activities, rather than any significant change in the fraction of the household income which is saved. The growth in per capita consumer expenditure in constant dollars probably

Table 3

COMPARISON OF G.N.P., POPULATION AND CONSUMPTION, 1929 AND 1955

Item	Units	1929	1955	1955 as % of 1929
G.N.P. in 1955 dollars.....	billions	10.8	26.8	248
Population.....	millions	10.0	15.6	156
G.N.P. per capita in 1955 dollars.....	dollars	1,080	1,715	157
Personal expenditure on consumer goods and services per capita in 1955 dollars....	"	744	1,081	145
Government expenditures on goods and services per capita in 1955 dollars.....	"	101	223	221

understates the improvement in the real economic position of the average Canadian because, at the same time, the average length of working life and the average hours of work per week have decreased. On the other hand, the proportion of productive activities covered by Canada's national accounts has tended to increase as these productive activities have been gradually transferred from the household to the market place; on this account the increase in consumption expenditures in the national accounts, tends to overstate the real improvement in economic welfare. Despite these and other qualifications, such as those involved in the construction of index numbers, there is no doubt that the level of material comfort achieved and aspired to in Canada is now substantially higher than it was three decades ago.

While there is considerable dispersion of real income levels around the Canadian average (and indeed some real problems of poverty exist), nevertheless, the lot of the common man does not appear to be bare subsistence in any physiological sense.

While only fragmentary data are available to test the proposition, it is widely believed that the distribution of income and of consumer expenditure is somewhat more equal now than it was three decades ago. The fragmentary data support this contention. Market analysts have been impressed with the idea that the level of living of the relatively well-to-do of a generation ago is the minimum expected or aspired to by lower income groups today; this optimistic interpretation is not a completely wild fantasy.

While precise international comparisons of levels of living present difficult if not insoluble problems, it is clear that Canadians now enjoy a high level of material comfort compared with many other countries. Average levels of living are substantially below those in the United States, probably

between 20% and 30% lower. Canadian levels are distinctly higher than those in the United Kingdom and Western Europe, the differences being most pronounced when comparing personal holdings of durable consumer goods.

As to trends in over-all levels of consumption expenditure, the outstanding story is one of considerable stability in long-run income-expenditure ratios. While the ratio of personal disposable income to G.N.P. has declined with the growth in government expenditures, the available evidence suggests that the proportion of personal disposable income devoted to expenditure on consumer goods and services has not changed. A much longer run of data on these matters is available for the United States than for Canada; these data indicate that the consumption-disposable income and personal saving-disposable income ratios, under full employment conditions, are essentially the same now as they were six decades ago, and three decades ago.

Turning to the pattern of consumer expenditures in Canada, the statistical data indicate that the fractions of the total devoted to shelter, clothing, public transportation, domestic service and maintenance of personal furnishings are now smaller than three decades ago, while the proportions devoted to electricity, gas and telephone, auto operation, the purchase of drugs, tobacco, alcoholic beverages, automobiles and household appliances are now larger than they were in the past. Perhaps the most striking thing about these data is the comparatively small differences in the rates of growth among most broad functional categories of consumer expenditure.

There are a number of qualitative changes in patterns of Canadian consumption which are not readily described by numbers; indeed some of these are concealed in the statistical measures. One of the most important changes has been the trend of transfer of activities from the home to other sectors of the economy. For example, preparation of food, the manufacture and care of clothing and the maintenance of furnaces are much more commercial and less household activities now than they were three decades ago. Some part of the provision for old age and medical care has been transferred from the home to the governmental and business sectors of the economy. On the other hand, some activities have been transferred to the home, *e.g.* the do-it-yourself movement. Further, hired domestic help is much less important relative to housewives' service now than it was three decades ago.

The automobile has had an almost revolutionary and a widely pervasive impact on the pattern of Canadian living during the past three or four decades. The sprawling urban communities of low population density could hardly exist without some personal means of rapid transportation. The methods of shopping, the forms of recreation, the location of offices and factories, and many other facets of life have been profoundly influenced by the automobile. In consumer budgets, the most outstanding change appears to be the substantial increase in the fraction devoted to the purchase and

operation of automobiles, more or less paralleled by a decrease in the fraction used for housing and public transportation.

A third important qualitative change is the enormous increase in the availability, quality and use of mechanical devices for household living, many of which are closely related in turn to the availability of a cheap and convenient source of household energy in the form of electricity and, to some extent, gas. Thermostatically controlled oil or gas space heating systems, continuous hot water, mechanical refrigerators, high-speed cooking stoves, television sets and radios, food mixers and so on are taken to be an ordinary part of everyday living today.

II. Total Personal Expenditure on Consumer Goods and Services

(a) The Trends

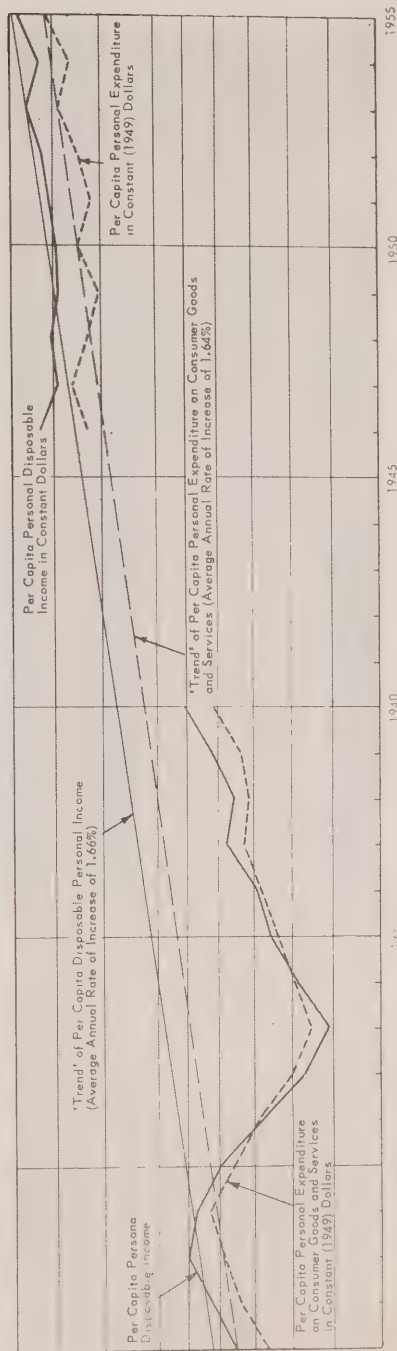
Total and per capita levels of real consumption expenditure in Canada are now higher than they have ever been before. (See Chart 1.) The most important proximate factor permitting this increase has been the growth in the nation's real output and income, though consumption and income need not change over time in precisely the same way. Data on the income-expenditure relations for Canada, as indicated by the national accounts¹, are set out in Tables 4 and 5, and Chart 2. These data show that personal expenditure accounted for 64.5% of the Gross National Expenditure (G.N.E.) between 1949 and 1953, compared with a somewhat larger fraction, 66.7% between 1926 and 1929, all figures in constant (1949) dollars. Looking at this another way, and using slightly different years for comparison, the per capita real G.N.P. increased by about 57% between 1929 and 1955, whereas per capita real consumption increased by about 45%. If the fractions of G.N.E. devoted to consumption are computed on the basis of current dollar estimates, the decline is slightly greater between 1926-29 and 1949-53 than is indicated by the constant dollar comparisons.

Changes in the ratio of consumption to G.N.E. may be brought about by various factors. On an accounting level of discussion, such a change may be attributed to a change in the ratio of personal disposable income to G.N.P., or to a change in the ratio of personal expenditure (and saving) to personal disposable income. The proportion of G.N.P. which finds its way into the personal disposable income—that is, the take-home pay of Canadians—could rise or fall due to changes in the fraction of the product flowing into depreciation accounts, undistributed corporation profits or the net revenue of governments². We will see in a moment that the take-home pay of Canadians is now a smaller fraction of G.N.P. than it was during

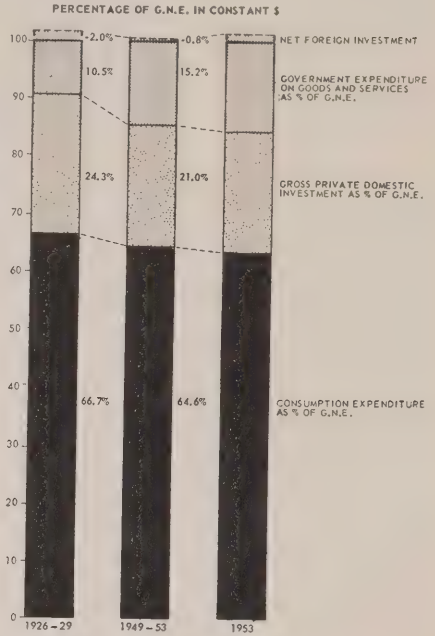
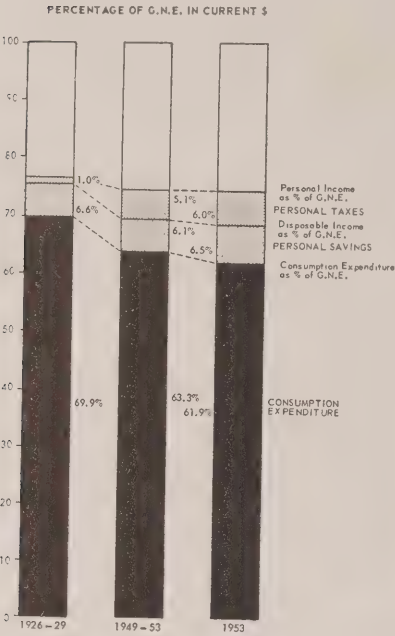
¹ The published data on Canada's national accounts between 1926 and 1932 have been adjusted by the Commission. See Appendix A of this study for explanation of these adjustments.

² By the net revenue of governments we mean the total revenue of all levels of government in Canada less the net transfer payments from the governments to other sectors of the economy, all figures as estimated in Canada's national accounts.

CANADA: PER CAPITA DISPOSABLE INCOME AND EXPENDITURE IN CONSTANT (1949) DOLLARS



CANADA. PERCENTAGE DISTRIBUTION OF GROSS NATIONAL EXPENDITURE, SELECTED PERIODS
CONSUMPTION STUDY, CHAPTER II, CHART 2



the late 1920's, and that this decline is primarily due to the larger fraction of the nation's product devoted to government expenditure on goods and services and the corresponding increase in the fraction of the product accounted for by the net revenue of all governments.

The other accounting fact which could change the ratio of consumption to G.N.E. is a change in the fraction of our incomes which we save. In studying the growth of consumption and saving, many economists have expected a long-run trend of decline in the consumption income ratio (an increase in the saving-income ratio), as incomes increase. As Abramovitz shows, this view was expressed by Alfred Marshall and was long accepted for its *a priori* plausibility.³ Testing and measurement of the Keynesian "consumption function" together with family budget studies seemed to confirm the proposition that a decline in the consumption income ratio would take place as incomes increase. Now, it is generally recognized that the ratio has shown practically no secular change in the United States over a long period of time; an all too sketchy set of Canadian data also seems to indicate little long-run change in the consumption-disposable income and personal saving-disposable income ratios.

(b) *The Relationship of Personal Expenditure and Personal Saving to Income in Canada.*

One of the questions posed in this study concerns the long-run trends in the relationships between personal saving, and personal expenditure on consumer goods and services on the one hand and personal disposable income on the other. The question is simple enough, but appropriate description is not as easy as one might expect, partly because of problems of measurement, and partly because the appropriate concepts are by no means clear.⁴ The most widely used concepts of personal income, expenditure and saving in Canada are those set out in Canada's national accounts.⁵ There are three important factors to be kept in mind in interpreting trends in personal saving, expenditure and income from these accounts. First, the national accounts measures exclude from personal savings any net accumulation of assets in the form of durable consumer goods. Second, the national accounts treat net accumulation of owner-occupied housing as a form of savings, but these savings are found in the business sector of the accounts, rather than in personal savings. Third, the personal sector includes the net income of all unincorporated businesses, including farms, part of which might, for our purposes, be looked upon as business saving. The personal sector also includes life insurance companies and similar institutions, on the grounds that these are associations of individuals. These three factors

³ M. Abramovitz, "Economics of Growth", in B. F. Haley, ed., *A Survey of Contemporary Economics*, Vol. II, Homewood, Ill., Irwin, 1952.

⁴ The conceptual and measurement problems of estimating personal income, expenditure and saving are dealt with in Appendix A to this study.

⁵ See particularly D.B.S. *National Accounts: Income and Expenditure, 1926-50.*

must be explicitly considered in interpreting trends in personal expenditure and personal saving.

Even when one uses the concepts of personal income, expenditure and saving set out in the national accounts, description of long-run trends is still not easy. First, reasonably reliable estimates of personal income, expenditure and saving in Canada are available only for the period beginning with 1926. This is hardly a long enough run of data from which to generalize, considering the abnormal circumstances of many years since 1926. Second, many of the data on personal saving may be subject to substantial margins of error. In Canada's national accounts, the estimates of personal saving are derived as the difference between independent estimates of personal disposable income and personal expenditure on consumer goods and services. Estimates made in this way will reflect the margins of error in the income and consumption data, errors which need not be offsetting in any particular year. During the last few years, what are called direct estimates of personal savings have been made for 1939 to the present.⁶ These direct estimates of personal savings derive their name from the method of measurement employed: it is a direct estimation of changes in household assets and liabilities within the conceptual framework of the national accounts.⁷ The direct estimates provide a check on the measures from the national accounts, as well as detailed information on the forms of personal saving which take place. However, we do not have direct estimates for sufficient years to provide a check on long-run trends of personal savings.⁸ Third, there have been and will continue to be substantial short-run fluctuations of personal savings about the long-run trends. As we noted above, the farm sector is included in the personal accounts, and thus farm saving is a part of personal saving. Due to fluctuations in harvests and in the availability of non-farm grain storage facilities, the data show very substantial fluctuations in farm inventories of grain and corresponding sharp fluctuations in farm saving. When interpreting the savings ratios, it is important to make allowance for unusual conditions in farm inventories and the published national conditions in farm inventories and the published national accounts permit such adjustments. In addition, substantial short-run fluctuations in savings ratios are associated with general business fluctuations and with other factors. In so far

⁶ D. J. R. Humphreys, "Personal Saving in Canada: Direct Estimates 1939-1953", Proceedings of the Business and Economic Statistics Section, 114th annual meeting, American Statistical Association, Sept., 1954. See also the Bank of Canada, *Statistical Summary*.

⁷ For brief reference purposes, the national accounts measures have been called residual estimates of personal savings, in contrast with the direct estimates. This might be misleading, as there is considerable residual estimating in the construction of the "direct estimates".

⁸ During the years for which the direct and national accounts estimates of personal saving are both available, the two schemes provide reasonably comparable figures. This correspondence suggests that the national accounts estimates of saving, available since 1926, may provide a reasonable measure of long run trends.

as our interest is in the long-run trends of personal savings, it is necessary to make appropriate allowances for these short-run fluctuations in personal saving.

Let us turn to the available data on personal saving in Canada. For our purposes, the average position under peacetime full employment conditions is the best guide. This means that the experience between 1926 and 1929 on the one hand and between 1952 and 1955 on the other hand are the two fragments of relevant data. Using the national accounts concepts and measures, it is our judgment that the available data do not indicate a significant long-run trend of change in the ratio of personal saving to personal disposable income. A series of measures of personal savings ratios are set out in Table 6. Probably the best estimate for our purposes is that found in Line 4 of this table; it is the ratio of personal saving to disposable income, both estimates excluding changes in farm inventories, the estimates also reflecting in a preliminary way the revisions of Canada's national accounts which are now under way. These data indicate a ratio of personal saving to personal disposable income averaging 5.2% between 1926 and 1928, and averaging 6.1% between 1952 and 1955.⁹

(c) *Consumption—Income Ratios in the United States*

There are three major pieces of evidence on aggregate consumption-income relationships in the United States. These are the Kuznets' study, *National Product Since 1869*, the Department of Commerce estimates of national accounts, available since 1929; and the new Goldsmith work, *A Study of Saving in the United States* which presents annual estimates of saving from 1897 to 1949 on a variety of conceptual bases. Selected data from these are set out in Table 8. Kuznets' data show practically no decline in the ratio of consumption to G.N.P. between 1869 and the late 1920's. The Department of Commerce estimates show a small decline in the consumption—G.N.P. ratio since 1929, mainly due, as in Canada, to a decline in the ratio of disposable income to gross income.

Goldsmith concludes from his own study:¹⁰

"The personal saving ratio including consumer durables has failed to show a marked upward or downward trend during the past half century. In particular, the average level of the personal saving ratio has been approximately the same in the four to seven years

⁹ These estimates differ considerably from the existing published statistics, unadjusted for changes in farm inventories; that published material suggests that personal savings as a percentage of disposable income average 8.1% between 1926 and 1928, and 7.9% between 1952 and 1955. However, during both these periods there were unusual increases in farm inventories of grain, increases which were particularly large between 1952 and 1955. Also, the (as yet unpublished) revision of the national accounts indicates that personal savings were overestimated in the published historical series, particularly during the period 1926-32.

¹⁰ R. W. Goldsmith, *A Study of Saving in the United States*, Princeton University Press, 1955.

after World War II as during the twenties and during the two decades before World War I. Although the evidence is much less satisfactory for the nineteenth century the average level of the personal saving ratio from the Civil War to the end of the century does not seem to have differed considerably from the level of the last fifty years.

"If consumer durables but not consumer debt are excluded the personal saving ratio probably has undergone a very slow secular decline during the past 50 to 100 years. In particular the ratio is slightly lower after World War II than during the three decades prior to 1930."

(d) Relationship of Personal Disposable Income to G.N.P.

It has already been observed that consumer expenditures account for somewhat smaller proportions of G.N.E. now than they did in the late 1920's, and that the main proximate reason for this decrease has been the fall of personal disposable income relative to the national product. In turn it has been asserted that the main reason for the relative decline of household incomes has been the growth in the net government deductions from the incomes stream.

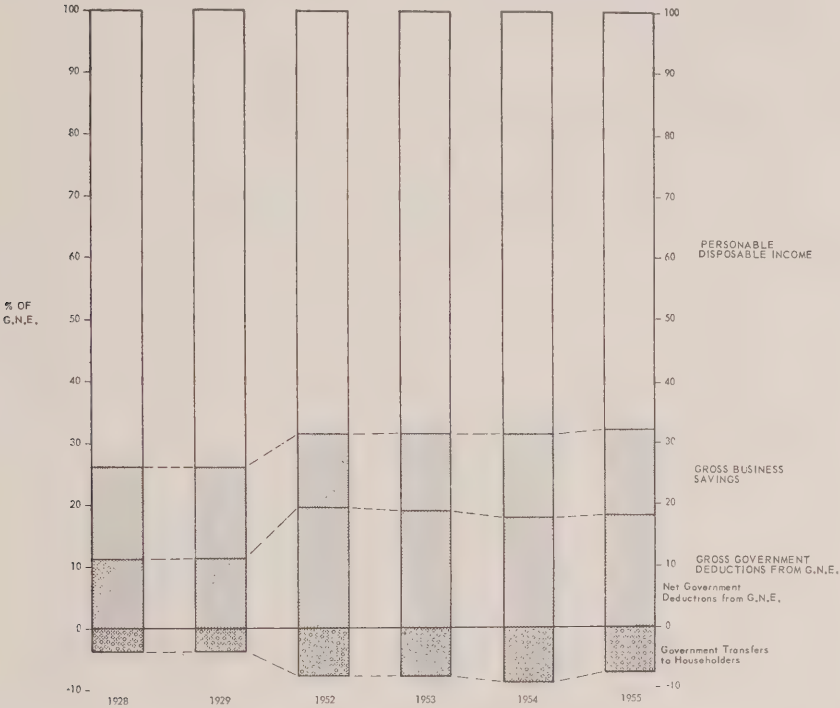
Let us turn for the moment to the evidence on this point. Table 7 and Chart 3 summarize the adjustments which have to be made to G.N.E. to arrive at an estimate of the personal disposable income. All of these adjustments have been expressed as a percentage of G.N.E. The ratio of personal disposable income to G.N.E. has fallen from almost $\frac{3}{4}$ in the late 1920's to a trifle more than $\frac{2}{3}$ at present. Over the same period the gross current government deductions have increased from approximately 15% to more than 26% of G.N.E. Of course, there has been some increase in the transfer payments from the government to the household, from about 3.8% of G.N.E. in the late 1920's to about 8.5% at present. However, the net result has been an increase in the net current government revenue from approximately 11% of G.N.E. to approximately 18%. Gross business savings, that is the undistributed corporation profits and depreciation allowances have actually decreased a little relative to G.N.E., averaging 15% in the late 1920's and 14% in 1955, the latter being higher than in any other recent year. Thus it is quite safe to conclude that the dominant reason for the decrease in the disposable income and in the consumer expenditure relative to G.N.E. has been the net growth of government deductions from income, a growth which parallels the relative increase in government activities in the Canadian economy.

(e) Short-Run Fluctuations in Consumption

Thus far the emphasis has been on the long-run stability in the consumption-income ratio. While we have considerable confidence in the long-run stability of consumption-income relationships, this does not preclude short-run variability. There have been quite large systematic increases in

CANADA: THE RELATIONSHIP OF PERSONAL DISPOSABLE INCOME TO GROSS NATIONAL EXPENDITURE

CONSUMPTION STUDY, CHAPTER II, CHART 3



the consumption-income ratio in times of depression and the reverse in times of prosperity. In addition there have been substantial variations of the ratio between two successive prosperous years, for example between 1950 and 1951. The instability of consumer spending is receiving a great deal more attention in the economic literature now than it did in the 1930's and in the earlier postwar period, when it was thought that the consumption-income relationship was a highly stable one in the short run. This new interest was particularly emphasized by Arthur Burns in a recent report to the National Bureau of Economic Research.¹¹

III. The Distribution of Consumer Expenditure

(a) Introduction

Among the questions posed out at the outset of this chapter were those dealing with trends in the content of consumer expenditure and consumption. On what kinds of goods and services do Canadians now spend their incomes? In what ways or way is this pattern of spending different from what has been observed in the past? It is these questions to which we now turn. Our answers are based mainly on analyses of the distribution of consumer expenditure among various functions, such as providing food, shelter and clothing. Of course, such data take us only part of the way toward understanding or measuring trends in consumption, and other measures will be used where they are available.

In some countries, theoretical and empirical studies of patterns of consumer expenditure have been carried on for a long time, but quite limited work has been done in Canada.¹² These studies have led to a number of important propositions about trends in consumer expenditure. Perhaps the best known are what have been called Engel laws;¹³ these are statements about the effects of increases in income on the pattern of consumption, the propositions being based mainly on family budget studies. During some limited period of time, records or estimates of family expenditures are obtained, along with such characteristics of the family as its income, the ages of family members, family size, location, occupation and so on. From this evidence conclusions are drawn regarding the effect of changes in income or of family characteristics on the patterns of consumer expenditure. For example, among the Engel or Engel-type laws one finds the propositions that, as incomes increase, the proportion devoted to expenditures on food will decline, the proportions spent on clothing will increase and the fraction devoted to services will increase fairly rapidly.

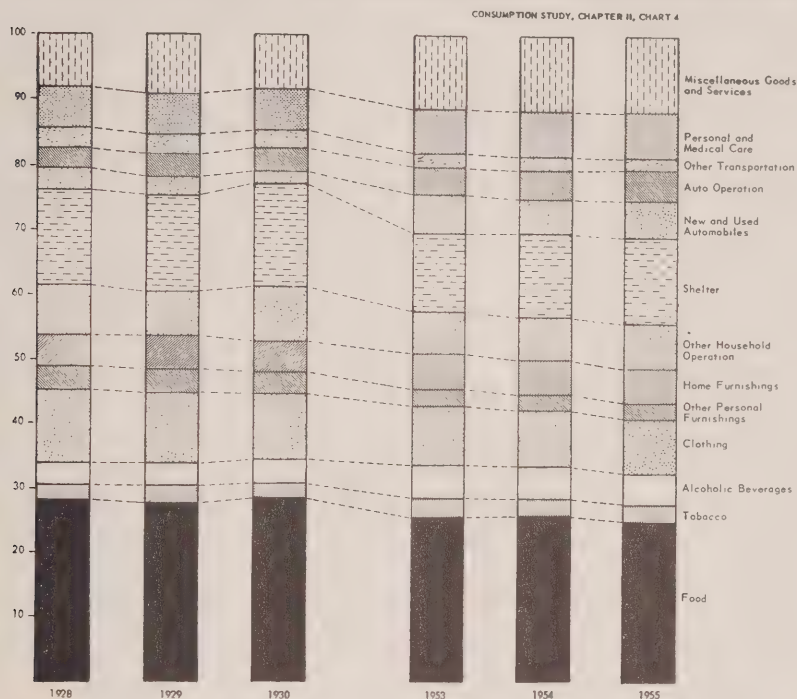
¹¹ A. F. Burns, "The Instability of Consumer Spending", *32nd Annual Report, National Bureau of Economic Research*, New York, May, 1952.

¹² See bibliography for references.

¹³ Named after the Belgian statistician, Engel, who was one of the first students to apply statistical techniques to analysis of family budgets.

TRENDS IN CANADIAN CONSUMPTION EXPENDITURE

CANADA: PERCENTAGE DISTRIBUTION OF PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES—CURRENT DOLLARS



Other studies have been based on time series, and the joint use of time series and family budget information. Later in this study we will examine the predictions of consumer behaviour formulated from these studies. Let us first turn to description of Canadian trends.

(b) *National Accounts' Data on Personal Expenditure on Consumer Goods and Services*

The main source of evidence on trends in the distribution of consumer expenditure in Canada is provided by the *National Accounts*, prepared by the Dominion Bureau of Statistics (D.B.S.)¹⁴. There are a number of conceptual and measurement problems involved in interpreting these data; these points are discussed in Appendix B to this study. It is sufficient to point out here how the data are derived. More or less complete information on sales of goods and type of facility through which sales take place is provided once every ten years by the merchandising section of Canada's decennial census. A functional distribution of consumer expenditure is based on this census, and forms a benchmark. For years between the censuses, an interpolation or extrapolation of the distribution of consumer expenditure is based on sales by various types of stores. For example, from the 1941 census, a benchmark estimate of the sales of furniture to the personal sector of the economy could be made, together with estimates of the channels through which those sales would take place. Then for the period between 1931 and 1941, personal expenditure on furniture would be based on these benchmarks together with fragmentary data on the annual sales of furniture-type stores and the furniture departments of departmental stores. Subsequent to 1941, and until the results of the 1951 census were available, sales of furniture to the personal sector would be based on the 1941 benchmark and fragmentary data on annual sales of particular types of retail outlet. This is what is known as the retail sales method of estimating the distribution of consumer expenditure, and is the one which underlies all of the published Canadian data in the national accounts.¹⁵

¹⁴ D.B.S., *National Accounts, Income and Expenditure*, various years. The Bureau has not published all of the data assembled on the distribution of consumer expenditure. They have made their work-sheets available for use by the Commission; these have facilitated rounding out the published series both in detail and by extending the number of years of information. For this we are very grateful.

¹⁵ The main alternative approach is that used in the U.S. national accounts for data between 1929 and 1947, called the commodity flow method. This consists of adding up the production of particular commodities, adjusting this total for imports, exports and changes in inventories, placing the result on a retail price basis and allocating the total among the personal and other sectors of the economy. This method depends on having fairly complete and rapidly produced information on production, as well as comparable classifications of production and international trade statistics, and an accurate reflection of changes in wholesale and retail markups. The published U.S. data since 1947 have been based on the retail sales method rather than on the commodity flow method of estimation.

In one year, a comprehensive commodity flow method of estimation was used, for

(Continued on next page)

The national accounts data on the distribution of consumer expenditure among various functional classes are set out in current dollars for selected years in Table 9; Appendix D, Table 1 and Charts 5 and 6. At present, about one-quarter of Canadian personal expenditure is devoted to food (including purchased meals); clothing and personal furnishings and shelter each account for approximately one-eighth of total expenditure. The purchase and running of automobiles amounts to more than 10% of total personal expenditure, and household operation (including the purchase of household durable equipment) accounts for approximately one-eighth of total personal expenditure. Collectively, then, these groups account for about three-quarters of the total personal expenditure.

In judging the long-run trends in the pattern of consumer expenditure, the point of view adopted in this study is to treat the periods 1926-29 and 1951 or 1952 through 1955 as normal years, within the terms of reference of the Commission. These were periods of relatively full employment and peacetime conditions in which comparatively rapid economic growth was taking place. Looking at this another way, it is our belief that all years between 1930 and 1950 were abnormal in some respect, so that the raw data of those years provide a somewhat unsatisfactory guide to the long-run trends in patterns of consumer expenditure. The years between 1930 and 1939 involved some substantial degree of unemployment and depressed economic conditions; the war years were influenced by rationing, price controls, unusual limitations on the total and some forms of consumption, and the postwar years through 1950 can be best regarded as a period of transition from war and depression conditions to a more normal peacetime full-employment economic condition. We have thus used a comparison of the patterns of consumer expenditure in the late 1920's and between 1952 and 1955 as the best rough indicator of long-run trends of personal expenditure in Canada.¹⁶

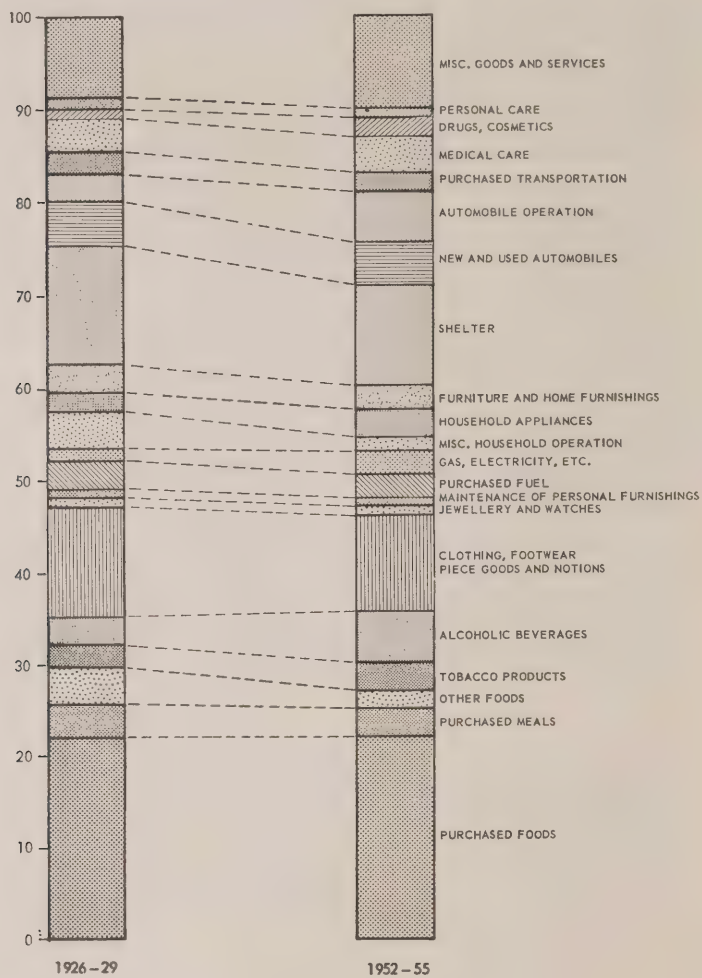
measurement of the distribution of consumer expenditure in Canada, that is, 1949, in connection with the Canadian input-output accounts. In most cases, the estimates corresponded fairly well with those derived from the retail sales method.

Another source of information on the distribution of consumer expenditure is provided by family budget surveys, of which three usable ones have been published in Canada; these are for 1937-38, 1947-48 and 1953. The distribution of consumer expenditure indicated by these surveys, corresponds fairly closely with that indicated by the national accounts.

¹⁶ This proposition has involved special efforts to ensure that reliable data are available on the distribution of consumer expenditure in Canada for 1926-29 and 1952-55. The published national accounts contain no distribution of consumer expenditure for years prior to 1930; D.B.S. has made special efforts to assist the Commission in filling this gap. Further, the published data on the distribution of consumer expenditure in recent years are based on an extension of the 1941 census by certain indicators; both for their own purposes and as an assistance to the Commission, the D.B.S. has made an (as yet) unpublished revision of the 1951 census. For both of these special efforts we are deeply grateful. The data problems are discussed in Appendix B to this study.

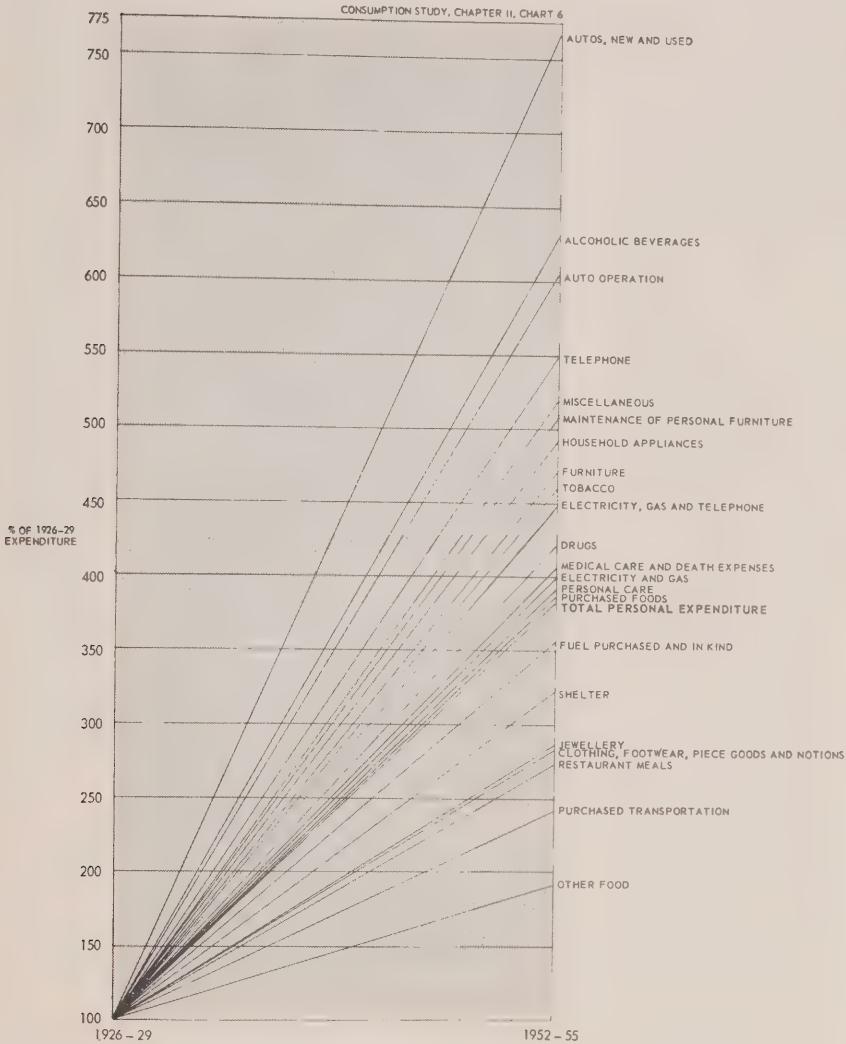
CANADA: PERCENTAGE DISTRIBUTION OF PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES
1926-29 and 1952-55, IN CONSTANT (1949) DOLLARS

CONSUMPTION STUDY, CHAPTER II, CHART 5



TRENDS IN CANADIAN CONSUMPTION EXPENDITURE

VARIOUS CLASSES OF PERSONAL EXPENDITURE
1952-55 AS PERCENTAGE OF 1926-29, CURRENT \$



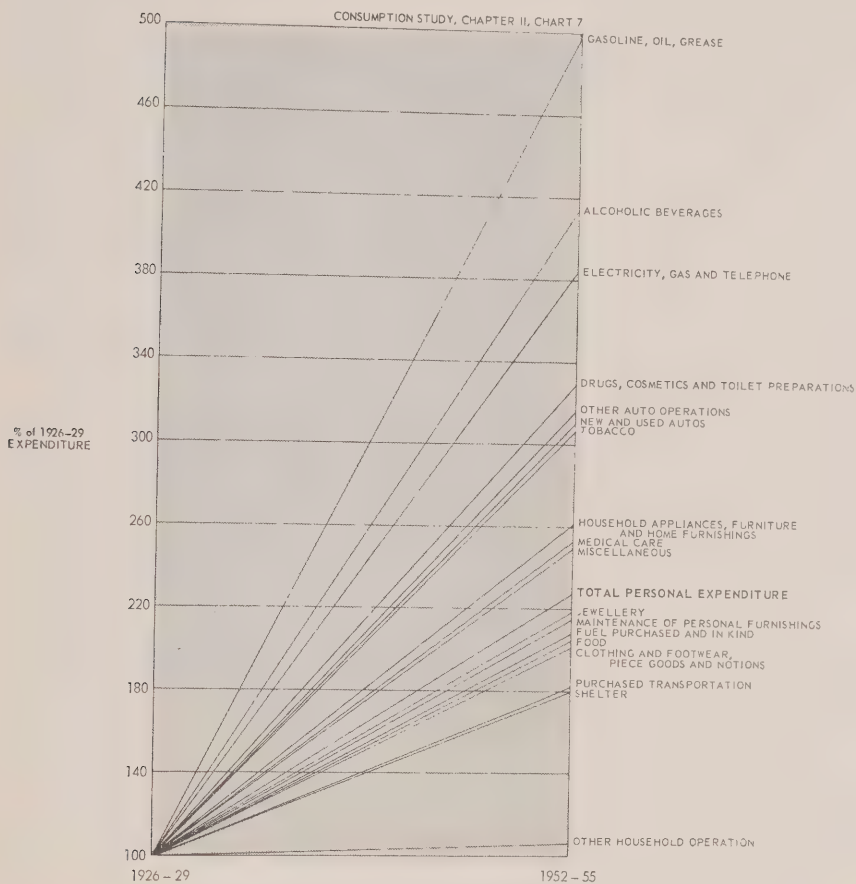
As we will see in a moment, there have been two or three broad functional classes of expenditure which have grown much more or less rapidly than the average, but the general impression is one of comparatively slow change in the main lines of the distribution of consumer expenditure. For example, Canadians spent a little more than 28% of their budgets on food (including purchased meals) in the late 1920's, compared with a little more than 25% between 1952 and 1955, and spent about 15% of their budgets on clothing in the late 1920's, compared with a little more than 11% in recent years. The operation of households (including the purchases of household appliances and furniture) accounted for a little more than 12% of personal expenditure in the earlier period and almost 12% recently. In other words, all broad functional classes of consumer expenditure appear to have shared in the increases in Canadian incomes, many of them in a roughly similar degree.

Of the large groups of expenditure, the most startling change has been the increase in the proportion of total personal expenditure devoted to the purchase and operation of automobiles. Between 1952 and 1955 this group accounted for more than 10% of personal expenditure compared with less than 6% of personal expenditure between 1926 and 1929. Of the smaller groups the largest proportionate increases have taken place in expenditures on alcoholic beverages, appliances, radio and TV equipment and tobacco products, electricity, gas and telephone, and drugs and cosmetics. On the other side of the coin, the major groups of expenditures which have decreased quite rapidly as a proportion of total expenditure include clothing and personal furnishing and shelter. Clothing and personal furnishing account for about a 25% smaller proportion of total personal expenditure between 1952 and 1955 than they did between 1926 and 1929. Shelter, including landlord's fuel costs, accounts for about a 15% smaller proportion of total personal expenditure in the recent years than in the late 1920's. However, expenditures on food have decreased by only 11% as a proportion of the total personal expenditure. Some of the small items or sub-groups have experienced more rapid declines than any of the major groups cited, *e.g.* purchased transportation which has accounted for only two-thirds as large a proportion of the consumer expenditure recently as compared with the late 1920's. Expenditure on domestic service, household supplies, and soaps and cleaning compounds have similarly declined at a very rapid rate as a proportion of the average consumer budget.

For some readers there will be a few surprises in these data, at least taking the statistics at face value. The relatively slow decrease of the proportion of expenditure on food conflicts at least superficially with the deeply-rooted notions that the consumption of food does not increase with increases in income. Similarly many of the family budget studies have suggested that expenditures on clothing would tend to increase more than proportionately as incomes increased. And though there has been a very rapid increase in the proportion of personal expenditure on household durable goods, it is surprising that they account for such a small proportion

TRENDS IN CANADIAN CONSUMPTION EXPENDITURE

CANADA: INCREASE IN VARIOUS TYPES OF CONSUMPTION EXPENDITURE 1926-29 to 1952-55
(Based on data in constant (1949) dollars)



of the over-all consumer budget. The rate of decrease in the proportion of consumer expenditure devoted to shelter conflicts with some judgments of the income elasticity of demand for shelter derived from family budget studies.

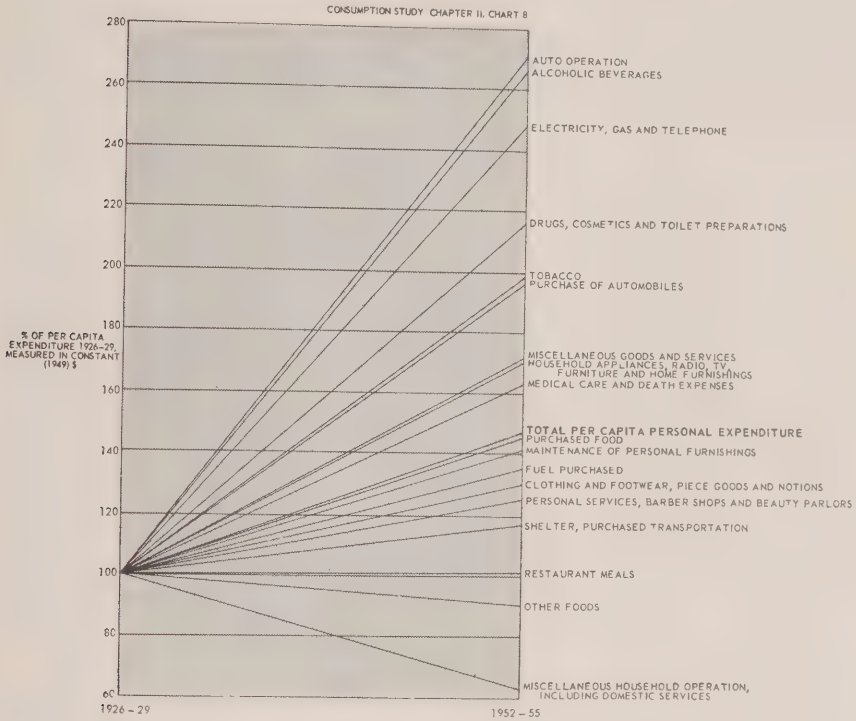
Many of the surprises turn out to be less substantial on careful examination than they are on the surface, but this matter will be put off until a little later. There is however, one quite important qualification to the data presented in this section regarding consumer durable goods. In Canada, or at least in Canada's national accounts, the consumption of consumer durables is measured by the current expenditure on these items. In many respects these items are looked upon by people as a form of personal capital, the current consumption being essentially an implicit rent of the existing stock rather than the current gross additions to the stock. In a period when the stock of consumer durables increases rapidly the current use of these durables, measured by an imputed rent, would be very much smaller than the gross additions to the stock. For Canada, this means that the consumer expenditure data undoubtedly overstate the current consumption of durable items, for a rapid increase in the stock has been taking place, particularly in recent years. This point is highly relevant to the interpretation of the proportion of expenditure devoted to automobiles and to household appliances and furniture.

The current dollar estimates of the distribution of consumer expenditure, which has been discussed thus far, could be a misleading measure of changes in the real level of consumption if the structure of consumer prices has changed substantially. Data have been drawn together on the various kinds of expenditure, measured in constant dollars; the resulting distribution is shown in Table 10 and Chart 5, and the rates of growth of various kinds of expenditures are compared in Chart 7. The most important difference between the data expressed in constant and in current dollars is regarding shelter. In current dollars the proportion of consumer budget devoted to shelter was substantially smaller in recent years than it was in the late 1920's, in constant dollars the decline is less. The difference is due to the smaller increase in the price index used to measure the volume of shelter expenditure than in the prices of all consumer goods and services taken together. Except for minor differences, the constant dollar figures lead to similar conclusions about the other categories of expenditure to those already based on the current dollar estimates.

Another way of looking at the changes in the pattern of consumer expenditure is by comparison of the rate of increase in per capita expenditure or consumption of various items. Such a comparison has been included in Table 10 and in Chart 8. Between 1926-29 and 1952-55, the average increase in per capita personal expenditure (measured in 1949 constant dollars) was approximately 47%. Much higher than average increases took place in expenditures on alcoholic beverages (167%), electricity, gas and telephone services (148%), auto operation (135%), the purchases of drugs, cosmetics and toilet preparations (115%), household appliances, radio and TV

TRENDS IN CANADIAN CONSUMPTION EXPENDITURE

CANADA: INCREASE IN PER CAPITA EXPENDITURE ON VARIOUS TYPES OF ITEMS
1926-29 to 1952-55 (based on data in constant (1949) dollars)



(100%), tobacco products (98%), and automobiles (86%). Slightly larger than average increases took place in per capita personal expenditure on miscellaneous goods and services (72%), medical care and death expenses (62%), and furniture (50%) and home furnishings (49%). Less rapid than average increases in per capita expenditure took place for purchased food (46%), purchased maintenance of personal furnishings (40%), fuel other than landlord's fuel costs (34%), clothing, footwear, piece goods and notions (30%), personal services, including barber shops and beauty parlors (25%), purchased transportation services (18%) and shelter (17%). Very small increases or absolute declines were experienced in the personal expenditure on restaurant meals (+1%), food in kind (-10%) and miscellaneous household operation including domestic service (-37%).

(c) *Other Features of the Distribution of Consumer Expenditures*

Consumer durables

When changes in the distribution of consumer expenditure are being considered there is often a considerable interest in the role of durable consumer goods. This is partly because consumer durables are looked upon as indicators of changes in standards of living, partly because they are more postponable in the short run than other types of expenditure, (and thus have a significant bearing on business fluctuations), partly because of the relationships of consumer durables and consumer credit, and partly because of special interest in the role of imports of such goods or of imports related to the consumption of such goods. In Canada's national accounts, durable consumer goods are defined rather narrowly; the group includes sales of jewellery and watches, home furnishings, furniture, household appliances, radio and television sets, and the personal expenditure on acquisition of automobiles. Measured in current dollars, this group of expenditures has increased from 8.3% of personal expenditure between 1926 and 1929 to 11.6% of expenditure between 1952-55. (See Table 11.) Measured in constant dollars, the increase has been from 10.3% to 12.3% of total personal expenditure between the same years. (See Table 12.)

The definition of expenditure on consumer durables might reasonably be broadened to include other durable household purchases, such as bicycles, power lawn mowers, power snow-removal equipment, gardening and hobby hardware and tools, boats, trailers and outboard motors and other sporting and camping equipment. Such a reasonable broadening of the definition of consumer durables would increase the proportion of the group to total personal expenditure. Further, such data as are available suggest that the broadened definition would also result in a higher estimate of the increase in the proportion of consumer expenditure devoted to durable consumer goods.¹⁷

¹⁷ As was indicated earlier, treating gross current expenditure on consumer durables as the measure of current consumption of such goods overstates the consumption; the current consumption of such goods should be measured by the implicit gross rent on the stock of such goods owned by households.

Services

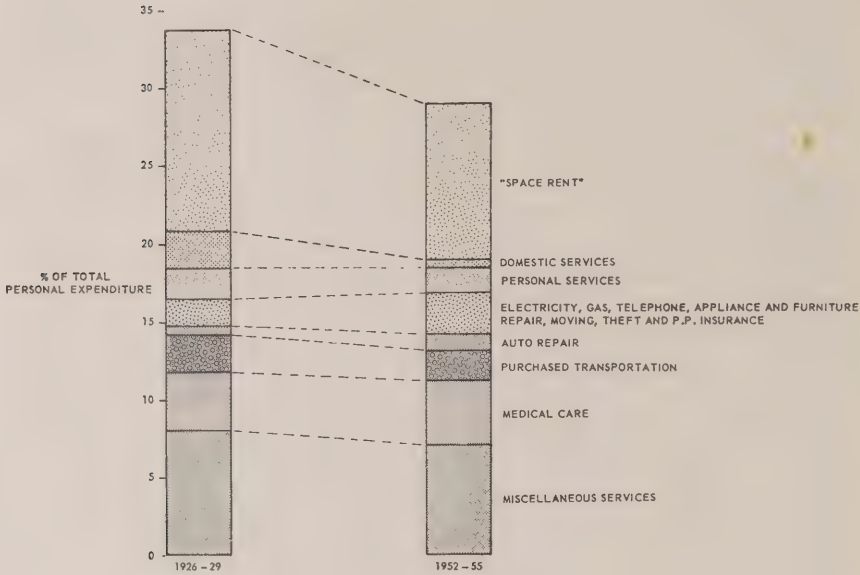
It has often been argued that services account for larger and larger proportions of consumption, as standards of living increase. Has this been true for Canada? Personal expenditure on services, as measured in Canada's national accounts, contains a mixed package of items including shelter, personal care, medical care, repairs to household appliances, and domestic service. Trends in consumer tastes, in technological developments, and in relative expensiveness differ markedly among the various items. In addition, many services rendered to households are not explicitly measured in personal expenditure at all. When goods are purchased at retail, the purchase price includes retail, wholesale, financial and transportation services. Thus, what is put down as an expenditure on goods in the national accounts contains a mixture of goods and services.

The data on personal expenditures on services are set out in Table 13 and Charts 9 and 10. These data show that those services explicitly measured in personal expenditure now constitute a smaller proportion of total personal expenditure than they did in the late 1920's. However, the decline is completely explained by the fairly rapid decreases in the proportions of consumer expenditure devoted to shelter and to the purchase of domestic service. Expenditure on services, other than shelter and domestic service, accounted for 18.5% of the total personal expenditure between 1952 and 1955, compared with 18.4% between 1926 and 1929, both ratios computed from constant dollar data. There have been some differences of trend among these other services; expenditures on electricity, gas and telephone, on medical care and on auto repair and insurance having increased more rapidly than the average. Maintenance of personal furnishings, personal services, purchased transportation and miscellaneous services have increased less rapidly than the average.

Another way of judging the trend in services is by measurement of the Gross Domestic Product of selected service industries, comparing these industries with the Gross Domestic Product of the economy as a whole. Services measured in this way are provided to all sectors of the economy, so that the trend does not apply precisely to consumption activities alone. However, as consumption activities account for such a large proportion of the Gross Domestic Product, the trend for consumption cannot be very different from that for the whole economy. In addition, the measurement of the over-all growth in service industries permits us to obtain some notion of the growth in services which are sold in combination with goods. Selected data on the Gross Domestic Product of selected service industries are set out in Table 14. These data show that there has been a very slight growth in the Gross Domestic Product of service industries compared with the whole economy. The data also show that a more rapid than average increase has taken place in government and community services and in wholesaling and retailing, while the other selected services have increased less rapidly than the average G.D.P. for the whole economy.

CONSUMER EXPENDITURE ON SELECTED SERVICES AS PERCENTAGE
OF TOTAL CONSUMER EXPENDITURE, BOTH IN 1949 \$

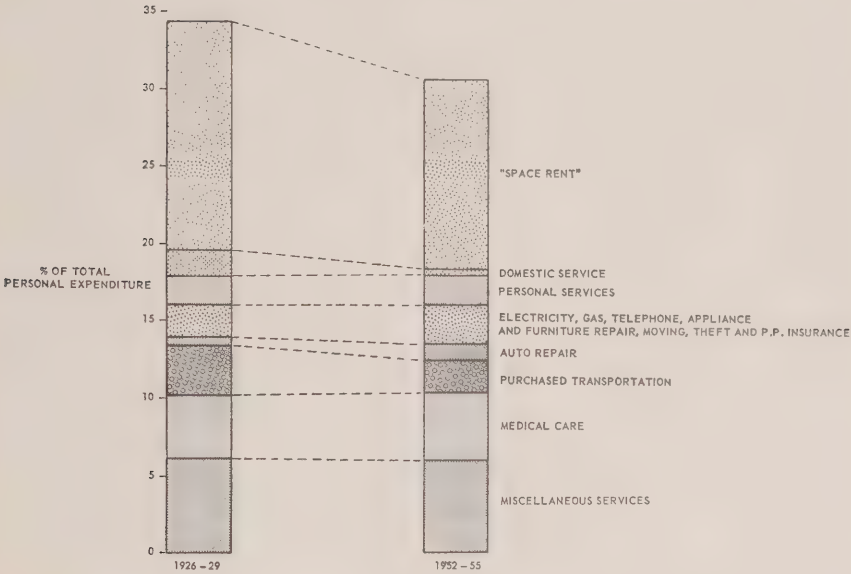
CONSUMPTION STUDY, CHAPTER II, CHART 10



TRENDS IN CANADIAN CONSUMPTION EXPENDITURE

CONSUMER EXPENDITURE ON SELECTED SERVICES AS PERCENTAGE
OF TOTAL CONSUMER EXPENDITURE, BOTH IN CURRENT \$

CONSUMPTION STUDY, CHAPTER II, CHART 9



IV. Comparisons of the Distribution of Consumer Expenditure and Levels of Living in Canada and the United States

Comparisons of consumer budgets and levels of living in Canada and United States are particularly inviting. One popular notion is that American patterns of living today indicate Canadian patterns in 10 to 15 years. It is a matter of common observation that both countries have essentially the same values regarding material things, not only in the aggregate but in considerable detail.

Recently, a comparison has been made of the distribution of consumer expenditure in the two countries and over time.¹⁸ An abstract from the Kravis study is found in Table 15. This table shows the close similarity of the current distribution of consumer expenditure in Canada and the United States. Canadians spend a slightly smaller proportion of their budgets on food, home furnishings and appliances, recreation, health and education and spend slightly larger proportions on drink and tobacco, clothing and rent. Because of the differences in per capita incomes and total consumer expenditure in the two countries, Canadian expenditures are somewhat lower than American in each category. The table also shows that there has been surprisingly little change in the distribution of consumer expenditure in the United States during the last five decades. User-operated transportation has increased substantially and rent has fallen substantially as has clothing and footwear. Relatively little change has taken place in the proportions devoted to food, drink and tobacco, personal care, home furnishings and appliances, and miscellaneous goods. In a sense, what has happened is a substitution of the automobile for housing and clothing. This change was much more marked between the turn of the century and the late 1920's than it has been in the succeeding quarter century.

The similarity of the distribution of consumer budgets in Canada and the United States today still leaves substantial differences in the levels and patterns of living between the two countries. We have already noted the lower levels of income in Canada which imply a lower level of consumption in each of the broad classes of expenditure. However, Canadians and Americans face substantially different structures of prices. Though the over-all cost of living for a comparable real budget is not very different in the two countries, for some items in the budget, Canadian prices are substantially higher than those in the United States. This is so for tobacco products, mainly due to much higher levels of tobacco taxation in Canada, for automobiles and other consumer durables, primarily due to the Canadian tariff but also due in part to commodity taxation and higher distribution costs in a smaller market. For these items, though Canadians spend between 80% and 85% of the American level of expenditure, the real flow of commodities to

¹⁸ Irving B. Kravis, *International and Intertemporal Comparisons of the Structure of Consumption*, National Bureau of Economic Research, Conference on Consumption and Economic Development, Oct. 21-22, 1955.

Canadians is much less than 80% of American levels. A comparison of levels of living in the two countries between 1947 and 1950 was made by Jean Mann Due.¹⁹ A summary table from her unpublished study has been put in this chapter as Table 16. These data show that Canadian levels of consumption were less than 70% of the American levels for tobacco, household appliances, other household operations, transportation mainly user-operated and recreation. Some prices are lower in Canada than in the United States including those for many staple foods, woollen clothing and personal services.

V. *Consumer Assets, Expenditure and Debt*

Recently many writers have observed, some with concern, the growth in the use of consumer credit in Canada and in the United States. At this point we set out the growth and place it alongside those activities to which it is closely related. The basis of the growth is discussed in subsequent chapters.

Data on the amount of consumer credit outstanding in Canada are only available since 1938. These data (Table 17) show that there has been a more than fourfold increase in the outstanding consumer debt between prewar years and the present. The growth in outstanding consumer credit is not large relative to disposable income or consumer expenditure on durables, nor compared with the stock of durable assets owned by households. In 1939, for example, the outstanding consumer credit in Canada was approximately 9% of disposable income; in 1954 it was less than 12%. Despite a very rapid increase in expenditure on durables, in only two postwar years has the increase in consumer debt amounted to more than 20% of the year's gross acquisition of durables. The growth in the consumer debt parallels quite closely the increase in the proportion of income spent on consumer durables. We suspect that the increase in the assets of households held in the form of durables is many times the increase in the consumer debt.

Some additional insight into growth of consumer debt may be provided by American data which exist for a much longer period of time and which include measurement of the stock of consumer durables. The history of consumption activities in Canada and the United States is sufficiently similar so that broad conclusions from American data on consumer debt may be transposed to Canada.

In Table 18 selected American data on the stock of durables, consumer debt, consumer income and expenditure have been gathered together. These data show that the value of the stock of consumer durables in 1954 was almost six times the amount of short-term consumer debt outstanding. The asset-debt ratio is now approximately the same as it was in the late 1920's or in 1948. The data also show that consumer debt grew more rapidly than

¹⁹ A summary comparison has been published. See Jean M. Due, *Consumption Levels in Canada and the United States, 1949-50*, *Canadian Journal of Economics and Political Science*, May, 1955.

the stock of durables in the three decades ending in the late 1920's. The income and expenditure data show a growth in debt relative to income and expenditure on durables, quite similar to that observed for Canada.

The growth in outstanding consumer credit is associated with (and more or less in step with) increases in income, personal expenditures on durables and personal wealth held in the form of consumer durables. This does not answer those who view the growth in consumer debt with alarm, except to point out that no major revolution of consumer habits in this respect has taken place during the past three decades. In any specific period, consumer credit outstanding, like other forms of credit, may increase too rapidly. Perhaps special qualitative controls of instalment buying may be required. Further, though the average asset-debt and income-debt positions of the community may present no serious problems, the distribution of income, assets and debt may be such that large numbers of people may find themselves in difficulty. Short-term variations in consumer spending and borrowing may accentuate instabilities of the economy. Finally, there have always been some problems of abuse of credit arrangements which have called forth social regulation. We reserve discussion of these questions to later chapters.

Table 4

CANADA: BASIC PUBLISHED DATA ON PERSONAL DISPOSABLE INCOME AND EXPENDITURE, 1926-55

Years	Current dollars					Constant (1949) dollars					
	G.N.E. ^a (total)	Y _d (total)	C (total)	S _p (total)	Y _d (total) excluding change in farm inventories	S _p (total) excluding change in farm inventories	G.N.E. (total)	G.N.E. per capita	Y _d per capita	C per capita	Y _d per capita adjusted to exclude farm inventories
1926.....	5,294	4,039	3,782	257	4,040	258	7,611	805	587	550	587
1927.....	5,647	4,246	4,045	199	4,186	151	8,250	856	619	589	610
1928.....	6,105	4,559	4,333	226	4,581	248	8,853	900	649	617	652
1929.....	6,166	4,589	4,544	45	4,718	174	8,680	865	636	630	654
1930.....	5,546	4,292	4,365	— 44	4,246	— 80	8,496	832	590	600	578
1931.....	4,560	3,629	3,773	— 144	3,659	— 114	7,296	703	538	559	543
1932.....	3,767	3,001	3,199	— 198	2,987	— 212	6,799	647	480	512	478
1933.....	3,552	2,774	2,887	— 113	2,807	— 80	6,214	587	458	476	463
1934.....	4,034	3,089	3,077	12	3,097	20	7,033	655	498	496	499
1935.....	4,345	3,293	3,243	50	3,294	51	7,619	702	523	516	524
1936.....	4,701	3,482	3,457	25	3,538	81	7,923	724	540	536	548
1937.....	5,555	3,930	3,777	153	3,941	164	8,727	790	585	562	587
1938.....	5,233	3,975	3,815	160	3,947	132	8,849	794	576	553	571
1939.....	5,707	4,208	3,904	304	4,148	244	9,640	855	598	563	598
1940.....	6,872	4,808	4,399	409	4,733	334	11,035	970	—	601	647
1941.....	8,517	5,600	5,053	547	5,644	595	12,563	1,091	—	638	713
1942.....	10,539	6,980	5,514	1,466	6,626	1,112	15,180	1,303	—	657	790
1943.....	11,183	7,478	5,727	1,751	7,603	1,876	15,571	1,320	—	658	873
1944.....	11,954	8,164	6,187	1,977	8,267	2,080	15,962	1,336	933	698	932
1945.....	11,850	8,430	6,811	1,619	8,661	1,850	15,413	1,277	955	751	955
1946.....	12,026	8,965	7,977	988	9,022	1,045	15,137	1,232	944	835	944
1947.....	13,768	9,599	9,173	426	9,678	505	15,315	1,202	895	856	903
1948.....	15,613	11,121	10,112	1,009	11,186	1,074	15,833	1,235	905	823	910
1949.....	16,462	11,968	10,963	1,005	12,040	1,077	16,304	1,212	870	815	898
1950.....	18,203	12,674	12,029	645	12,543	514	17,325	1,264	895	849	886
1951.....	21,474	14,663	13,273	390	14,309	1,036	18,340	1,309	913	826	890
1952.....	23,255	15,891	14,366	1,525	15,654	1,288	19,585	1,357	938	848	924
1953.....	24,473	16,700	15,112	1,588	16,650	1,538	20,332	1,376	965	875	962
1954.....	24,317	16,788	15,823	965	16,903	1,080	19,844	1,306	934	880	940
1955.....	26,679	18,200	16,709	1,312	17,989	1,101	21,573	1,380	986	915	974

^aG.N.E.—Gross National Expenditure; Y_d—Personal disposable income;

C—Personal expenditure on consumer goods and services;

S_p—Personal saving.

SOURCE: Published data, except G.N.E. and C, 1926—32. See Appendix A.

Col. (1), (2), (3), (4), (5), (6): Canada; D.B.S. *National Accounts, Income and Expenditure*, various issues. For 1926—32, Col. (3), (4), (6) have been adjusted by the Commission; (See Appendix A); otherwise the data are from published sources.Col. (7), (10): 1926—46—the D.B.S. estimates in 1935—39 \$ have been converted to constant 1949 \$ by the Commission; 1947—55 from Canada: *National Accounts*, various issues. Mid-year population estimates from *Canadian Statistical Review*, various issues, have been used to convert estimates to a per capita basis.

Col. (9): the D.B.S. estimates of disposable income have been converted to 1949 \$ using the implicit price index for personal expenditure on consumer goods and services, 1949=100.

Col. (11): personal disposable income, less increase in farm inventories, has been deflated in the same way as Column (9).

Table 5

CANADA: CONSUMPTION EXPENDITURE AS PERCENTAGE OF INCOME—PUBLISHED DATA
(percentage)

Period or year	Estimates in current dollars									
	Consumption expenditure as % of G.N.E.	(1)	Consumption expenditure as % of G.N.E.	(2)	Personal income as % of G.N.E.	(3)	Disposable personal income as % of G.N.E.	(4)	Consumption expenditure as % of disposable personal income	(5)
Average	1926-1929.....	68.8	71.9	76.1	75.1	94.3				
"	1935-1939.....	70.6	71.8	76.6	74.5	96.3				
"	1949-1953.....	64.5	63.3	74.4	69.3	91.4				
	1926.....	67.5	71.6	77.3	76.2	92.5				
	1927.....	68.1	71.6	76.2	75.1	93.9				
	1928.....	67.8	70.9	75.6	74.7	93.6				
	1929.....	71.8	73.5	75.5	74.4	97.2				
	1935.....	73.4	74.6	77.6	75.8	98.5				
	1936.....	74.1	73.5	76.0	74.1	99.3				
	1937.....	71.2	70.5	75.5	73.4	96.1				
	1938.....	69.6	72.9	78.2	76.0	96.0				
	1939.....	65.7	68.4	75.7	73.7	92.8				
	1945.....	58.8	57.4	77.9	71.1	80.8				
	1946.....	67.4	66.3	81.1	74.5	89.0				
	1947.....	70.1	66.6	75.4	69.7	95.6				
	1948.....	66.7	64.8	76.4	71.2	90.9				
	1949.....	67.2	66.6	77.5	72.7	91.6				
	1950.....	67.2	66.1	73.7	69.6	94.2				
	1951.....	63.1	61.8	70.3	68.3	90.5				
	1952.....	62.5	61.8	74.0	68.3	90.4				
	1953.....	63.5	61.9	74.3	68.4	90.4				
	1954.....	67.6	65.8	75.3	69.4	94.2				
	1955.....	66.0	63.1	74.2	68.7	91.9				

SOURCE: Column (1): Calculated from Canadian *National Accounts* data placed on a 1949 constant dollar basis by the Commission.
Column (2): Calculated from various issues of D.B.S. *National Accounts*.

Table 6

CANADA: SELECTED DATA ON PERSONAL SAVINGS RATIOS

Item	1926-28	1926-29	1951-54	1951-55	1952-55
1. Personal saving (not adjusted for changes in farm inventories of grain) as % of personal disposable income, residual method, and published data except as noted..... (a)	5.4	4.3	8.5	8.2	7.9
2. Personal saving as % of disposable income, both excluding changes in farm inventories, otherwise concepts and estimates as in Line 1.....	5.2	4.8	7.7	7.4	7.4
3. Personal saving (not adjusted for changes in farm inventories) as % of personal disposable income, residual method, revised estimates of consumption..... (b)	5.4	4.3	7.1	7.0	6.7
4. Personal saving as % of disposable income, both excluding changes in farm inventories, otherwise concepts and estimates same as Line 3.	5.2	4.8	6.3	6.2	6.1
5. Personal saving as % of disposable income, direct estimates, not adjusted for changes in farm inventories.....	—	—	9.6	—	—
6. Same as 5, adjusted for farm inventories.....	—	—	8.8	—	—

NOTES: (a) The personal savings estimates for 1926-29 have been adjusted by the Commission in view of the preliminary but unpublished revisions under way at D.B.S. For 1951-55 the published data have been used.

(b) Same data as in Line 1 used for 1926-29; revised data, working to the published concept of G.N.E. used for 1951-55, the main revisions being based on the 1951 Census.

Table 7

ADJUSTMENTS TO G.N.E. TO OBTAIN PERSONAL DISPOSABLE INCOME

(% of G.N.E.)

Item	1928	1929	1952	1953	1954	1955
Gross Government Deductions from G.N.E.						
1. Indirect taxes less subsidies.....	-11.1	-11.0	-11.7	-11.9	-12.1	-11.9
2. Corporate income tax.....	-0.7	-0.8	-5.9	-5.0	-4.6	-4.8
3. Withholding tax.....	-	-	-0.2	-0.2	-0.2	-0.3
4. Government investment income.....	-1.8	-1.6	-2.3	-2.3	-2.4	-2.4
5. Personal direct taxes.....	-1.0	-1.1	-5.7	-5.9	-5.9	-5.6
6. Employer and employee Contributions to social insurance and government pension funds.....	-0.4	-0.4	-1.5	-1.6	-1.6	-1.5
7. Total gross government deductions.....	-15.0	-14.9	-27.3	-26.9	-26.8	-26.5
Transfers from Government to households						
8. Transfers from Government excluding the transfer portion of interest on the national debt.....	+1.4	+1.5	+5.8	+6.0	+6.7	+6.4
9. Transfer portion of interest on the national debt.....	+2.4	+2.3	+2.0	+2.0	+2.2	+2.0
10. Total government transfers.....	+3.8	+3.8	+7.8	+8.0	+8.9	+8.4
11. Net government deductions from G.N.E. (7)+(10).....	-11.2	-11.1	-19.5	-18.9	-17.9	-18.1
Gross Business Saving						
12. Depreciation allowances.....	-10.8	-11.5	-9.1	-9.8	-10.9	-10.7
13. Undistributed corporation profits.....	-4.3	-3.4	-2.9	-3.0	-2.6	-3.3
14. Total gross business saving.....	-15.1	-14.9	-12.0	-12.8	-13.5	-14.0
15. Minor adjustments.....	-	-	+0.2	-	+0.3	+0.5
16. Total adjustments (11)+(14)+(15).....	-26.3	-25.6	-31.7	-31.7	-31.0	-31.3
17. Personal disposable income as % of G.N.E.....	74.7	74.4	68.3	68.2	69.0	68.7

SOURCE: Computed from D.B.S., *National Accounts, Income and Expenditure*, various issues.

Table 8

U.S.—SELECTED DATA ON THE RATIO OF CONSUMPTION TO INCOME

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Consumption goods and services as a % of G.N.P. in 1929 prices	Consumption goods and services as % of G.N.E. in 1949 \$	Consumption as % of G.N.P. in current \$	Consumption as % of G.N.E. in current \$	Disposable ^b income as % of G.N.E. current \$— U.S.	Personal ^b saving as % of disposable income	Consumption ^b expenditure as % of disposable income
Years		Years ^a				
1869-78	78.0	81.1	—	81.0	6.6	93.4
1874-83	78.5	81.0	—	81.1	7.3	92.7
1879-88	78.4	80.8	—	82.5	7.6	92.4
1884-93	76.3	79.2	—	82.6	7.5	92.5
1889-98	75.7	78.7	—	82.5	7.4	92.6
1894-1903	77.0	78.9	—	80.1	12.2	87.8
1899-1908	78.3	79.9	—	79.1	6.4	93.6
1904-1913	78.5	80.3	—	79.4	7.1	92.9
1909-1918	77.8	79.3	—	78.7	8.3	91.7
1914-1923	78.6	78.3	—	79.7	5.7	94.3
1919-1928	79.7	79.2	—	79.3	1.6	98.4
1924-1933	78.2	82.7	—	71.2	13.2	86.8
1929-1938	86.9	85.8	—	71.7	6.1	93.9
1929	—	—	71.8	—	—	—
1937	—	—	72.6	—	—	—
1946	—	—	69.4	—	—	—
1947	—	—	71.0	—	—	—
1948	—	—	68.8	—	—	—
1949	—	—	71.3	—	—	—
1950	—	—	68.0	—	—	—
1951	—	—	69.0	—	—	—
1952	—	—	64.8	—	—	—
1953	—	—	64.5	—	—	—
1954	—	—	64.3	—	—	—
			66.7	—	—	—

^a Inclusive.^b Cycle averages.SOURCE: Col. (1) and (3) S. Kuznets, *National Product Since 1869*.Col. (2) and (4) *Survey of Current Business*, July 1955.Col. (5) and (6) Calculated from R. Goldsmith, *A Study of Saving in the U.S.*, Vol. III and Vol. I.

Table 9

CANADA: PERCENTAGE DISTRIBUTION OF CONSUMER EXPENDITURE, SELECTED YEARS, CURRENT DOLLARS

Expenditure group	1926	1927	1928	1929	1930	1951	1952	1953	1954	1955
1. Food.....	28.87	28.84	27.96	27.83	28.30	27.23	26.43	25.63	25.68	24.80
2. Tobacco.....	2.37	2.39	2.35	2.35	2.57	3.12	3.08	2.89	2.82	2.69
3. Alcoholic beverages.....	2.09	2.74	3.53	3.62	3.48	5.00	5.22	5.13	4.91	4.84
4. Clothing and personal furnishings.....	14.80	14.82	14.98	14.51	13.57	12.25	12.18	11.72	11.14	10.86
Clothing.....	11.13	11.17	11.30	10.95	10.23	9.61	9.56	9.15	8.68	8.49
5. Household operations.....	12.07	12.19	12.47	11.90	13.21	11.62	11.99	11.90	11.91	12.31
Home furnishings.....	1.24	1.28	1.37	1.50	1.44	1.41	1.41	1.37	1.29	1.31
Furniture.....	1.18	1.22	1.30	1.42	1.37	1.42	1.63	1.61	1.53	1.59
Appliances and radios.....	1.76	1.82	1.94	2.13	2.04	2.09	2.36	2.48	2.52	2.54
6. Shelter.....	15.36	14.94	14.73	14.84	15.87	11.46	11.76	12.21	12.93	13.35
7. Transportation.....	8.30	8.29	9.08	9.08	8.20	10.64	11.53	12.42	12.33	12.75
Autos, new and secondhand.....	2.66	2.51	3.08	2.77	1.94	5.07	5.23	6.12	5.60	6.07
Gas, oil, etc.....	1.26	1.38	1.54	1.71	1.76	1.93	2.49	2.65	2.92	2.88
Auto parts and accessories.....	0.66	0.67	0.78	0.88	0.89	0.63	0.68	0.69	0.76	0.75
Auto repairs.....	0.34	0.37	0.41	0.48	0.48	0.66	0.66	0.64	0.71	0.70
Auto insurance.....	0.07	0.06	0.08	0.11	0.13	0.17	0.23	0.29	0.29	0.28
Bridge and tunnel tolls.....	0.04	0.07	0.07	0.08	0.09	0.05	0.05	0.05	0.05	0.05
8. Personal and medical care.....	6.64	6.56	6.50	6.54	6.39	6.67	6.81	6.92	7.14	7.07
Barber shops.....	0.60	0.61	0.62	0.62	0.61	0.69	0.68	0.67	0.67	0.67
Personal services.....	0.13	0.13	0.13	0.14	0.13	0.10	0.09	0.09	0.09	0.09
Total of Groups 1 to 8.....	90.50	90.77	91.60	90.67	91.59	87.99	89.00	88.82	88.86	88.67

SOURCE: The percentages are computed from data found in D.B.S., *National Accounts*, various issues. Supplementary detail was provided by the Bureau. All percentages are of total consumer expenditure in current dollars.

Table 10

A DISTRIBUTION OF CONSUMER EXPENDITURE IN CONSTANT (1949) DOLLARS

	(1) Aggregate personal expenditure in 1949 \$		(3) 1952-55 as % of 1926-29		(4) Per capita expenditure in (1949) constant \$		(6) 1952-55 as % of 1926-29		(7) % of total personal expenditure		(8) average 1952-55	
	average 1926-29	average 1952-55	\$ millions	%	average 1926-29	average 1952-55	\$	%	average 1926-29	%	average 1952-55	%
1. Food.....	1,762.3	3,612.2	204.9	240.6	181.0	240.6	132.9	29.89	26.96	26.96	26.96	26.96
1.1 Purchased food.....	1,309.9	2,938.8	224.3	195.8	134.5	195.8	145.6	22.21	21.94	21.94	21.94	21.94
1.2 Restaurant meals.....	267.1	415.2	155.4	27.7	27.4	27.7	101.1	4.53	3.10	3.10	3.10	3.10
1.3 Other food.....	185.3	258.2	139.3	17.2	19.0	17.2	90.5	3.14	1.93	1.93	1.93	1.93
2. Tobacco.....	143.1	437.4	305.7	29.1	14.7	29.1	198.0	2.43	3.26	3.26	3.26	3.26
3. Alcoholic beverages.....	175.8	726.8	413.4	48.4	18.1	48.4	267.4	2.99	5.42	5.42	5.42	5.42
4. Clothing and personal furnishings.....	820.5	1,655.4	201.8	110.3	84.3	110.3	130.8	13.92	12.36	12.36	12.36	12.36
4.1 Clothing and footwear, piece goods and notions.....	715.0	1,426.6	199.5	95.0	73.4	95.0	129.4	—12.12	10.65	10.65	10.65	10.65
4.2 Jewellery.....	44.9	98.3	218.9	6.5	4.6	6.5	141.3	0.76	0.73	0.73	0.73	0.73
4.3 Maintenance of personal furnishings	60.6	130.5	215.3	8.7	6.2	8.7	140.3	1.02	0.98	0.98	0.98	0.98
5. Household operation.....	789.3	1,644.8	208.4	109.6	81.1	109.6	135.1	13.39	12.28	12.28	12.28	12.28
5.1 Fuel purchased and in kind.....	179.7	372.6	207.3	24.8	18.5	24.8	134.1	3.06	2.78	2.78	2.78	2.78
5.2 Electricity and gas.....	42.1	172.0	408.6	11.5	4.3	11.5	267.4	0.71	1.29	1.29	1.29	1.29
5.3 Telephone.....	36.4	130.1	357.4	8.7	3.7	8.7	235.1	0.61	0.98	0.98	0.98	0.98
5.4 Household appliances.....	118.7	365.9	308.3	24.4	12.2	24.4	200.0	2.01	2.73	2.73	2.73	2.73
5.5 Furniture.....	94.8	218.1	230.0	14.5	9.7	14.5	149.5	1.60	1.63	1.63	1.63	1.63
5.6 Home furnishings.....	79.8	182.9	229.1	12.2	8.2	12.2	148.8	1.35	1.37	1.37	1.37	1.37
5.7 Other household operation.....	237.8	233.2	98.1	15.5	24.4	15.5	63.5	4.03	1.74	1.74	1.74	1.74
6. Shelter (incl. landlord's fuel costs).....	776.4	1,401.1	180.5	93.3	79.7	93.3	117.1	13.16	10.45	10.45	10.45	10.45
7. Transportation.....	554.0	1,683.8	303.9	112.1	56.9	112.1	197.0	9.39	12.57	12.57	12.57	12.57
7.1 Autos, new and used.....	262.9	804.6	306.0	53.6	27.0	53.6	198.5	4.46	6.01	6.01	6.01	6.01
7.2 Gas, oil and grease.....	81.0	404.9	500.0	27.0	8.3	27.0	325.3	1.37	3.02	3.02	3.02	3.02
7.3 Auto parts and accessories.....	32.0	83.9	262.2	5.6	3.3	5.6	169.7	0.54	0.63	0.63	0.63	0.63
7.4 Auto repairs and other auto operation	37.3	134.4	360.3	9.0	3.8	9.0	236.8	0.63	1.00	1.00	1.00	1.00
7.5 Purchased transportation.....	140.9	256.0	181.7	17.1	14.5	17.1	117.9	2.39	1.91	1.91	1.91	1.91
8. Personal and medical care.....	357.1	927.7	259.7	61.8	36.8	61.8	167.9	6.08	6.92	6.92	6.92	6.92
8.1 Medical care and death expenses.....	222.5	553.8	248.9	36.9	22.8	36.9	161.8	3.77	4.13	4.13	4.13	4.13
8.2 Cosmetics and toilet preparations.....	82.7	274.5	331.9	18.3	8.5	18.3	215.3	1.40	2.06	2.06	2.06	2.06
8.3 Personal care.....	51.9	99.4	191.5	6.6	5.3	6.6	124.5	0.88	0.74	0.74	0.74	0.74
9. Miscellaneous.....	516.6	1,289.4	249.5	85.9	53.0	85.9	162.1	8.75	9.62	9.62	9.62	9.62
10. Total personal expenses on consumer goods and services.....	5,896.6	1,3396.0	227.1	892.2	605.5	892.2	147.3	100.0	100.0	100.0	100.0	100.0

Table 11
A DISTRIBUTION OF CONSUMER EXPENDITURES AMONG DURABLES, PERISHABLES AND SERVICES
(*millions of current dollars*)

	1926	1927	1928	1929	1930	1951	1952	1953	1954	1955
1. Jewellery and watches.....	34.8	36.7	37.9	38.6	29.9	94.2	103.1	107.8	104.0	107.7
2. Home Furnishings.....	47.1	52.1	59.3	68.2	62.8	190.6	208.2	215.3	211.1	226.2
3. Furniture.....	44.7	49.5	56.3	64.7	59.6	191.9	240.1	251.9	250.9	274.0
4. Appliances and radios.....	66.9	74.0	84.2	96.9	89.2	283.1	348.4	388.4	411.6	438.1
5. Autos.....	101.0	102.0	134.0	126.0	85.0	678.9	764.0	946.0	902.0	1,036.0
6. Total durable goods (Lines 1 to 5)	294.5	314.3	371.7	394.4	325.5	1,448.7	1,663.8	1,909.4	1,879.6	2,082.0
7. Total goods.....	2,447.1	2,655.3	2,867.8	2,994.6	2,828.8	9,520.4	10,216.1	10,738.8	10,981.2	11,483.5
8. Total goods excl. durables, (Line 7 less Line 6).....	2,152.6	2,341.0	2,496.1	2,600.2	2,503.3	8,071.7	8,551.3	8,829.4	9,101.6	9,401.5
9. Total services.....	1,353.0	1,403.6	1,476.1	1,554.7	1,541.0	4,032.7	4,557.8	4,946.2	5,365.5	5,756.3
10. Shelter services.....	(583.8)	(606.2)	(639.9)	(674.9)	(692.3)	(1,553.6)	(1,738.1)	(1,915.7)	(2,113.4)	(2,301.7)
11. Total personal expenses on goods and services.....	3,800.1	4,058.9	4,343.9	4,549.3	4,369.8	13,553.1	14,773.9	15,685.0	16,346.7	17,239.8
12. Durables as % of total (6 as % of 11)	7.7	7.7	8.6	8.6	7.5	10.7	11.3	12.2	11.5	12.0
13. Other goods as % of total (8 as % of 11).....	56.7	57.7	57.4	57.2	57.3	59.6	57.9	56.3	55.7	54.6
14. Services as % of total (9 as % of 11)...	35.6	34.6	34.0	34.2	35.3	29.8	30.9	31.5	32.8	33.4
15. Shelter services as % of total (10 as % of 11).....	15.4	14.9	14.7	14.8	15.8	11.5	11.8	12.2	12.9	13.4
16. Services other than shelter.....	20.2	19.7	19.2	19.3	19.5	18.3	19.1	19.3	19.9	20.0

NOTE: Computed from preliminary revision of the distribution of personal expenditure.

Table 12

CONSUMER EXPENDITURES ON DURABLES AND SERVICES
(in 1949 constant dollars)

Item	1926-29 average \$ millions	1952-55 average \$ millions
1. Jewellery and watches.....	44.9	98.3
2. Home Furnishings.....	79.8	182.9
3. Furniture.....	94.8	218.1
4. Appliances and radios.....	118.7	365.9
5. Autos.....	262.9	804.6
6. Total durables (Lines 1 to 6).....	601.3	1,669.8
7. Clothing, footwear and notions.....	715.0	1,426.6
8. Auto parts and accessories.....	32.0	83.9
9. Total semi-durables (7 + 8).....	747.0	1,510.5
10. Total goods (15 less 12).....	3,892.3	9,473.6
11. Total perishables (10 less 6 + 9).....	2,544.0	6,293.3
12. Total services.....	2,004.3	3,922.4
13. Shelter services.....	776.4	1,401.1
14. Total services less shelter services.....	1,227.9	2,521.3
15. Total goods and services.....	5,896.6	13,396.0

NOTE: Computed from data made available to the Commission by D.B.S.

Table 13

ANALYSIS OF PERSONAL EXPENDITURE ON SERVICES

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	1926-29 average in 1949 \$	1952-55 average in 1949 \$	1952-55 as % of 1926-29 (both in 1949 \$)	1952-55 as % of 1926-29 in current \$	% of total personal expenditure on goods and services			
					1926-29 average in 1949 \$	1952-55 average in 1949 \$	1926-29 average in current \$	1952-55 average in current \$
1. Shelter services, net of landlord's fuel costs....	761.4	1,340.7	176.1	315.8	12.91	10.00	14.73	12.33
2. Domestic services.....	142.7	50.6	35.5	86.4	2.42	0.38	1.70	0.39
3. Maintenance of personal furnishings.....	60.6	130.5	215.3	386.7	1.03	0.98	1.09	1.12
4. Personal services.....	51.9	99.3	191.3	393.2	0.88	0.74	0.74	0.78
5. Electricity, gas and 'phone.	78.5	302.1	384.8	450.2	1.33	2.26	1.92	2.30
6. Radio, appliance, furniture repair.....	12.1	25.7	212.4	600.0	0.21	0.19	0.13	0.21
7. Theft and p.p. insurance...	0.5	10.9	2,180.0	333.3	0.01	0.08	0.00	0.00
8. Moving expense.....	6.5	3.8	58.5	163.3	0.11	0.03	0.07	0.03
9. Auto repair.....								
10. Auto insurance.....	37.3	134.4	360.3	713.0	0.64	1.00	0.57	1.04
11. Bridge, tunnel tolls.....								
12. Purchased transportation..	140.9	256.0	181.7	243.6	2.39	1.92	3.16	2.04
13. Medical care.....	222.5	553.8	248.9	403.7	3.77	4.13	4.09	4.38
14. Miscellaneous.....	487.9	954.6	195.9	380.0	8.27	7.12	6.12	6.13
15. Total services, net of landlord's fuel costs...	1,989.3	3,862.4	194.1	337.7	33.73	28.81	34.32	30.72
16. Total goods and services	5,896.6	13,396.0	227.1	377.4	100.00	100.00	100.00	100.00

SOURCE: See Appendix B.

Table 14

GROSS DOMESTIC PRODUCT—SELECTED SERVICES
(*\$ 1949 millions unless otherwise stated*)

	Average 1926-29	Average 1952-55 as % of 1926-29
1. Trade, wholesale and retail.....	1,133.1	221.5
2. Finance, insurance and real estate.....	255.1	156.6
3. Services: business, recreation, etc.....	538.0	160.2
4. Government and community services.....	769.5	261.6
5. Residential rents.....	366.3	209.9
6. Total services (above).....	3,061.9	214.0
7. Total services, less rents.....	2,695.6	214.6
8. Total G.D.P.: economy.....	8,744.3	209.2
9. Trade as % of G.D.P.—economy.....	13.0	13.7
10. Finance, etc. as % of G.D.P.—economy.....	2.9	2.2
11. Services, business, etc. as % of G.D.P.—economy.....	6.2	4.7
12. Government and community services as % of G.D.P.—economy.....	8.8	11.0
13. Residential rents as % of G.D.P.—economy.....	4.2	4.2
14. Total services as % of G.D.P.—economy.....	35.0	35.8
15. Total services, less rents, as % of G.D.P.—economy.....	30.8	31.6

SOURCE: Computed from Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

Table 15
A COMPARISON OF THE DISTRIBUTION OF CONSUMER EXPENDITURE, SELECTED CATEGORIES AND YEARS,
CANADA AND U.S.

(percentage of total expenditure)

Area and year	Food, drink and tobacco		Personal care and adornment		Home expenses		Transportation and communication		Recreation, health and education	Misc.	Durables	Services other than rent
	Total	Food	Total	Clothing and footwear	Total	Rent	Total	Total				
								User operated transport				
U.S.												
1909.....	32.8	24.4	14.0	12.3	33.5	19.1	5.1	2.1	8.2	6.4	8.4	18.4
1914.....	33.7	25.5	13.2	11.5	32.5	18.4	6.4	3.1	8.2	6.0	8.7	18.2
1925.....	27.8	23.3	14.5	12.5	30.3	15.7	10.6	7.7	9.8	6.9	13.4	20.3
1930.....	25.3	23.3	13.5	11.3	30.6	15.4	9.5	6.5	11.6	9.4	10.1	26.8
1937.....	29.4	22.7	12.0	10.1	27.3	12.4	10.7	7.8	12.2	8.4	10.3	25.2
1950.....	29.4	24.2	11.4	9.5	26.4	10.8	13.1	10.4	12.9	6.8	14.7	22.8
1953.....	30.4	25.3	10.4	8.6	25.9	11.8	12.9	10.2	12.9	7.5	12.9	23.7
Canada												
1930.....	29.0	23.1	13.5	11.5	28.3	15.7	9.8	5.6	9.8	9.6	7.3	20.8
1937.....	28.2	22.5	13.2	11.3	28.0	15.0	11.0	7.1	9.8	9.8	8.3	19.7
1950.....	31.1	23.3	13.0	11.0	23.6	11.2	13.2	9.6	9.9	9.2	11.2	17.2
1953.....	30.3	22.9	12.4	10.4	25.1	12.6	13.8	10.2	10.2	8.2	11.9	18.8

NOTES: 1. Kravis has adjusted the Canadian and American data to a comparable basis, so far as is possible with limited resources. The main remaining difference between the data from the two countries is the somewhat more limited coverage of durables in the Canadian than in the American statistics.

2. The distribution for both countries is based on current dollar estimates.

SOURCE: I.B. Kravis, *International and Intertemporal Comparisons of the Structure of Consumption*, National Bureau of Economic Research, Conference on Consumption and Economic Development, Oct. 21-22, 1955.

Table 16

THE LEVEL OF CONSUMPTION IN CANADA EXPRESSED AS A
PERCENTAGE^a OF THE LEVEL IN THE U.S., 1947-50

Category of consumption	The Canadian level as a percentage of the U.S. level based on:		Weights
	(1)	(2)	
	<i>Per capita personal consumption expenditures^b %</i>	<i>Methods employed in this dissertation^c %</i>	
Food.....	61.3	88.8	25.1
Alcoholic beverages.....	84.0	70.4	5.6
Tobacco.....	104.4	49.9	3.5
Clothing.....	71.0	79.8	13.5
Housing.....	77.0	90.0	10.7
Fuel.....	87.8	87.8	4.1
Household operation—appliances.	63.0	63.5	2.1
Transportation.....	76.5	67.2	10.7
Communications.....	69.5	83.3	1.2
Personal, medical and death....	66.2	80.0	7.3
Education.....	42.0	82.5	3.5
Recreation.....	42.8	42.8	2.7
Religion and welfare.....	40.6	70.2	0.6
Miscellaneous.....	82.4	82.4	5.0
Net expenditures abroad.....	-77.3	-77.3	- 0.8
All consumption.....	67.5	76.3	100.0

^a Extract from Jean Mann Due: *Levels of Consumption in Canada and the United States, 1947 to 1950* (unpublished Ph.D. thesis, University of Illinois, 1953).

^b In current dollars in each country.

^c For more detail see the individual chapters.

See also Jean Mann Due, "Consumption Levels in Canada and the United States", *Canadian Journal of Economics and Political Science*, May, 1955.

Table 17

CONSUMER CREDIT IN CANADA

Year	Estimated consumer credit outstanding at end of year ^b (1)	Aggregate disposable personal income (2)	Estimated expenditure on durable consumer goods (3)	Debt as % of disposable income (4) = (1)/(2)	Expenditure on durables as % of disposable income (5) = (3)/(2)	Increase in debt as % of estimated expenditure on durables (6) = (7)/(3)	Increase in debt (7)
1938.....	379	3,975	291 ^a	9.5	7.3	n.a	n.a
1939.....	373	4,208	292 ^a	8.9	7.1	-20.5	- 6
1946.....	411	8,965	590 ^a	4.6	6.6	+19.3	+114
1947.....	628	9,599	852 ^a	6.5	8.9	+25.5	+217
1948.....	669	11,121	914 ^a	6.0	8.2	n.a	+ 41
1949.....	807	11,968	1,084 ^a	6.7	9.1	+12.7	+138
1950.....	1,034	12,764	1,343 ^a	8.1	10.5	+16.9	+227
1951.....	973	14,663	1,449	6.6	9.9	- 4.4	- 61
1952.....	1,385	15,891	1,664	8.7	10.5	+25.2	+412
1953.....	1,710	16,700	1,909	10.2	11.5	+17.1	+325
1954.....	1,843	16,788	1,880	11.0	11.2	+ 7.1	+133
1955.....	2,182	18,200	2,082	12.0	11.4	+16.6	+339

^a Published data, unrevised.^b Data from 1948 are revised and are not consistent with data for earlier years.SOURCE: Columns (1) and (7): Bank of Canada, *Statistical Supplement, Financial Supplement, 1954*, estimates of selected items of consumer credit, Page 67 for years 1938 to 1947, Financial Supplement 1955, Page 59 for years 1948 to 1955.
Columns (2) and (3): D.B.S. *National Accounts*, various issues.

Table 18

U.S.—CONSUMER DEBT, EXPENDITURES AND ASSETS

Year	Net stock of consumer durables valued at current prices (1)	Short-term consumer debt (Goldsmith) (2)	Debt as % of the net stock of durables (3)	Aggregate disposable income (4)	Consumer debt (Federal reserve board) (5)	Expenditures on durables (6)	Debt as % of disposable income (7) = (5)/(4)%	Expenditures on durables as % of income (8) = (6)/(4)%
	\$ billions	\$ billions	%	\$ billions	\$ billions	\$ billions		
1900.....	6.0	0.6	10.0	—	—	—	—	—
1904.....	7.7	0.9	11.7	—	—	—	—	—
1908.....	9.6	1.1	11.4	—	—	—	—	—
1912.....	13.6	1.6	11.7	—	—	—	—	—
1922.....	30.9	3.3	10.7	—	—	—	—	—
1924.....	34.3	3.9	11.4	—	—	—	—	—
1928.....	41.9	6.3	15.0	—	—	—	—	—
1929.....	42.2	7.2	17.1	83.1	6.8 ^c	9.2	8.2	11.1
1932.....	27.3	3.9	14.3	48.7	3.7 ^e	3.6	7.5	7.4
1936.....	28.5	6.5	22.8	66.2	6.2 ^e	6.3	9.4	9.5
1939.....	32.5	7.6	23.3	70.4	7.2	6.7	10.2	9.5
1940.....	36.5	8.7	23.8	76.1	8.3	7.8	10.9	10.3
1944.....	47.9	5.5	11.5	146.8	—	6.8	3.8	4.6
1945.....	—	6.3	—	150.4	5.7	8.1	5.3	5.4
1946.....	63.7	9.7	15.2	159.2	8.4	15.9	6.9	10.1
1947.....	—	—	—	169.0	11.6	20.5	12.1	12.1
1948.....	88.5	15.5	17.5	187.6	14.4	22.2	7.7	11.8
1949.....	—	17.9	—	188.2	17.1	23.6	9.1	12.5
1950.....	—	—	—	206.1	20.8	28.6	10.1	13.9
1951.....	—	—	—	226.1	21.5	27.1	9.5	12.1
1952.....	—	—	—	236.7	25.8	26.6	10.9	11.2
1953.....	—	—	—	250.4	29.5	29.8	11.8	12.0
1954.....	180.4 ^a	30.1 ^b	16.6	254.8	30.1	29.3	11.8	11.5
1955.....	—	—	—	—	—	—	—	—

^a Estimated by adding to Goldsmith's data the net saving since 1948 and adjusting the Goldsmith data to 1954 prices.

^b The Federal Reserve Board estimate for 1954 has been used. This may be 7% to 8% smaller than the Goldsmith estimate.

^c These figures are not exactly comparable to those from 1939 on.

SOURCE: Column (1) National Bureau of Economic Research, Conference on Income and Wealth, Studies Number, 14.

Column (2) Goldsmith, Raymond, *A Study of Saving in the United States*, Princeton, Princeton University Press, 1955.

Columns (4) and (6)—U.S. Dept. of Commerce: *Survey of Current Business*, National Income Number, July 1954.

Column (5) U.S. Federal Reserve Bulletin.

THE PROSPECTS FOR TOTAL PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES IN CANADA

I. Introduction

Having set forth the main trends in consumer expenditure in Canada we now turn to explanation of these trends and to the future prospects. This chapter is concerned with total or aggregate expenditure. Chapter 4 deals with the distribution of consumer expenditure. In each case, the chapters contain both some explanation of past experience and our view of the prospects.

In general, the analysis of trends in consumer expenditure and forecasts of consumer expenditure are based on the idea that such expenditure depends on the value of the nation's gross output, which is the same thing as its gross income. To explain the growth in consumer expenditure we must then have an explanation of the increase of the nation's total production and income, and an analysis of the relationship between that income and consumer expenditure. Similarly, to forecast consumer expenditure we must have both a forecast of the nation's output and a prediction regarding the consumer expenditure—gross income relationship. The explanation of past growth in Canada's output and the prospects for further growth are dealt with in the study of *Output, Labour and Capital in the Canadian Economy*, prepared for the Commission.¹ Our business, in this study of consumption, is to explore the past and prospective relationships between the nation's gross production or income and consumer expenditure.²

In studying this matter, we believe that it is convenient to divide the enquiry into two parts, the first being concerned with the relationship between G.N.P. and the personal disposable income available to Canadians; the

¹ Wm. C. Hood, and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

² Of course, the levels of national output which are attained depend on the level of consumption expenditure, among other things, as there must be sufficient spending to take the product off the market. This matter is in the realm of reconciliation of the various specialized studies of the Commission with the forecast of G.N.P.

second being devoted to the relationship between the personal disposable income and personal expenditure on consumer goods and services in Canada. In Section II of this chapter we will explore the past trends in the ratio of disposable income to G.N.P., and set down a forecast of this ratio. In Section III, the concern is with the past and prospective ratio of personal expenditure to disposable income. These two ratios, when multiplied together, give a ratio of consumer expenditure to G.N.P. A forecast of G.N.P. and of our two ratios implies a forecast of consumer expenditure. For example, if G.N.P. in 1980 is forecast as \$75 billion, disposable income as two-thirds of G.N.P., and consumer expenditure as 95% of disposable income, then the predicted consumer expenditure would be \$47.5 billion.

The summary forecasts of prospective personal disposable income and consumer expenditure in Canada are found in Table 22.

When we proceed in this way, we are assuming that the disposable income depends on G.N.P., and that the personal expenditure depends on the personal disposable income. We are not saying that other factors are irrelevant in determining the ratios of disposable income to G.N.P. and of consumer expenditure to personal disposable income. Indeed the essence of our problem is to explore the basis of changes in the ratios.

Our procedures, and those used in most other forecasts of consumer expenditure which we have encountered, are based on the premise that consumer expenditure depends on income. This approach appears to ignore some very persuasive suggestions in the economic literature that income may depend on consumption as much as the other way around. Ruth Mack in a recent paper to the Annual Meeting of the American Economic Association, puts the point this way:

"Since the lion's share of national product consists of consumption goods, the outstanding fact about consumption — its high level and rapid growth — must be explained by the high level and rapid growth of total output. This history has been credited to richness of natural resources, including the size of the country and special work-talents and attributes of its people, and to derivatives such as mass markets or a high degree of competition. Yet these explanations seem to assume a zest for work and a willingness to take changes which themselves require explanation. I submit that part of this explanation lies in the unusual interest in consumer goods that has characterized the American scene. *Income, in short, is a function of consumption, via consumption standards, just as truly as consumption is a function of income.*"³

Mrs. Mack bases her proposition on arguments that in America there is a more common and stronger belief that improved living is a possibility and that there is a greater desire for goods. She argues that American culture is strongly thing-minded, that women possess unusual power, that consumer goods are valued as a mode of establishing social priority and that many sorts of consumer goods are better in America than elsewhere.

³ Ruth Mack, "Trends in American Consumption and the Aspiration to Consume", *The American Economic Review*, May, 1956.

Somewhat earlier Moses Abramovitz made a similar point, in discussing trends in saving-income ratios:

"The *a priori* expectation that the proportion of aggregate income saved would tend to increase as per capita incomes rose has been belied by observation. Relative constancy or decline in the ratio of saving to income seems to be the long-run rule for the few countries for which data are available. . . . *It is clear that any such circumstances as tend to stimulate consumption affect the need for income and, therefore, the incentive to work, save and invest...*"⁴

While both extracts are based primarily on American experience, the propositions carry over readily to Canada. There is little question but that desires for more goods and the convictions that they are to be had, are part of the Canadian social tastes. We probably work harder and invest more in ourselves than many other societies. While we may admit this, and expect the pressure for more material things to continue, it is very difficult to separate consumption pressures from other factors in the general environment influencing economic growth. In any case, the job of studying the dependence of consumption and saving levels on income does not become an irrelevant one.

II. *Personal Disposable Income*

(a) *The Steps in Forecasting*

Given a forecast of G.N.P., the problem of predicting the aggregate expenditure on consumption is divided into two steps: first, estimating the personal disposable income and second, forecasting the relationships of consumer expenditure to disposable income. This section is concerned with only the first of these steps.

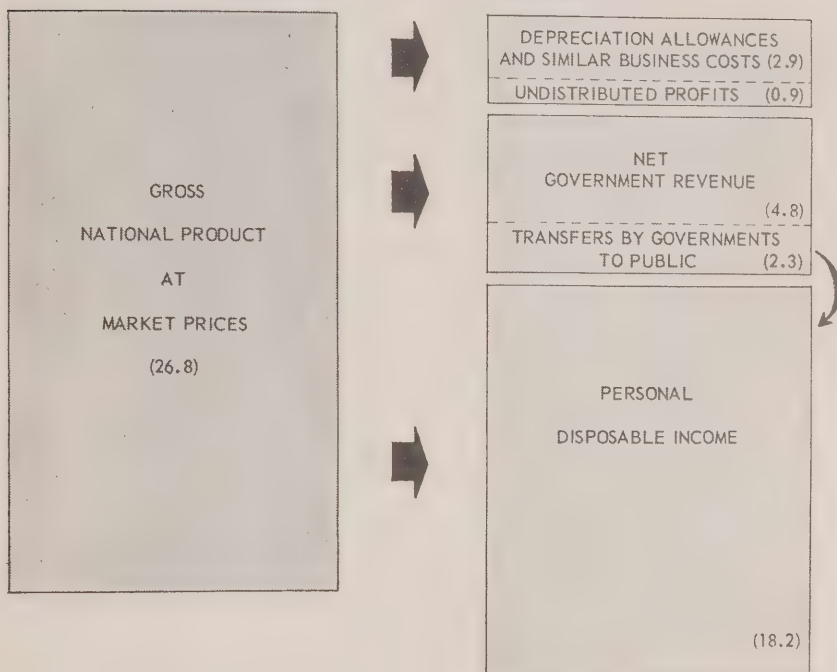
The relationship of personal disposable income to G.N.P. depends on the size of two types of deductions from the gross income stream; the first being what we call the net government revenue, and the other being gross business saving. (See Chart 11.) These will be defined below. If the fractions of the nation's gross income deducted as net government revenue or as business saving increase, then the personal disposable income will be a smaller fraction of G.N.P. Our procedure is to focus on trends and prospects for net government revenue (Subsection b), and gross business saving (Subsection c), and thus to derive a prediction of the ratio of personal disposable income to G.N.P.

Between 1953 and 1955 the deductions from the income stream as net revenue of governments and for gross business saving averaged 31.6% of G.N.P. Our judgment is that the deductions will be approximately the same fraction of G.N.P. in the future; thus personal disposable income will amount to about 68.4% of G.N.E. However, it is expected that the ratio of personal

⁴ Moses Abramovitz, "Economics of Growth", in B. F. Haley, ed., *A Survey of Contemporary Economics*, Vol. II. Published for the American Economic Association by R. D. Irwin, Inc., Homewood, Ill., 1952.

PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES

THE ACCOUNTING RELATIONSHIPS BETWEEN GROSS NATIONAL PRODUCT AND PERSONAL DISPOSABLE INCOME



NOTE: All figures are estimates for 1955 in billions of current dollars.

disposable income to G.N.P. may fall a little between 1955 and 1965, thereafter increasing and reaching, by 1980, approximately the same position as the average between 1953 and 1955.

(b) Net Government Revenue as a Deduction from the Gross Income Stream

Trends in the relationship between the G.N.P. and personal disposable income were set out in Chapter 2, together with some explanation and comment. Both Canadian and American experience show that the main reason for the decline in the disposable income — G.N.P. ratio has been the growth of what we are calling the net government revenue as a fraction of the G.N.P. By net government revenue is meant the difference between gross government revenue (taxes and fees of all sorts, government investment income, employee and employer contributions to social insurance and government pension funds) and government expenditures on transfers and subsidies (including the transfer portion of interest on the national debt). The relationship is illustrated in Chart 11. During 1955, for example, the gross revenue of all levels of government in Canada as indicated by the national accounts was approximately \$7.1 billion. During this year, the estimated transfers by the governments to other sectors of the economy was \$2.3 billion. Thus the net government revenue, that is the net deduction of governments from the gross income stream, was \$4.8 billion.

In Canada, the net government revenue in this sense has increased from 11.1% of G.N.P. in 1929 to an average of 18.2% between 1953 and 1955. The main proximate reason for this growth has been the relative increase in government expenditure on goods and services. In other words, if governments are to use larger proportions of the national output, the bulk of this must be covered by government revenue; other uses of the national output are curtailed mainly by a decrease in the fraction of the G.N.P. which finds its way into personal disposable income. Indeed, in a national accounts sense, the government expenditure on goods and services has been approximately equal to the net current government deductions from the income stream between 1953 and 1955; that is, there has not been net borrowing by all levels of government combined⁵.

⁵ It is important in this connection to distinguish between government operations measured by government budgets and measured in the national accounts. The government expenditure on goods and services in the national accounts is equal to government budgetary expenditures on both current and capital accounts less the net transfers made by governments to other sectors of the economy. The net current governmental deductions from the income stream include budgetary and non-budgetary sources of income, both of a current nature. In recent years the provincial and municipal governments (combined) have been running deficits on their budgetary accounts when capital expenditures are included. When capital outlays are included the federal government had an approximate balance on its budgetary account. However, all three levels of government combined have had fairly substantial net non-budgetary revenues, so that in a national accounting sense, the government expenditures on goods and services have been approximately equalled by the net current government deductions from the income stream.

A forecast of personal disposable income, and thus of consumption, cannot be made without estimating or adopting some working rule about the prospects for net government revenue as a fraction of G.N.P. Various members of the Commission staff have studied trends in government expenditure and in government revenue in order that assumptions about future government activities could be made for such purposes as this study. It must be acknowledged that government expenditure and revenues are matters of public policy, and that public policy may produce quite different expenditure and revenue patterns than those assumed here.

The working rule adopted in this study regarding the net government revenue is that such deductions from the G.N.P. will be about the same fraction of G.N.P. in 1960 as at present (18%), thereafter declining gradually to 16.4%. A table of the ratios follows.

Table 19

NET GOVERNMENT REVENUE AS PERCENTAGE OF G.N.P.

Year	Net govt. deductions as % of G.N.P.
1928.....	11.2
1929.....	11.1
1952.....	19.5
1953.....	18.9
1954.....	17.9
1955.....	18.1
1960.....	18.0
1965.....	17.5
1970.....	16.9
1975.....	16.6
1980.....	16.4

Government expenditures on goods and services may usefully be divided into defence expenditures, current non-defence and capital non-defence expenditures. In the past, current and capital non-defence expenditures appear to have grown somewhat more rapidly than G.N.E. However, a major factor in the sharp increase in the proportion of G.N.E. devoted to government activities has been the particularly rapid increase in defence spending. Within the terms of reference of the Commission studies, it seems reasonable to expect that the defence expenditures might account for smaller portions of G.N.E. in the future than they do at present. Capital non-defence spending has been studied in the paper on the prospects for housing and social capital outlays prepared for the Commission. These studies, together with other work carried out by the staff of the Commission, suggest that as a rough working basis, it can be assumed that the capital non-defence spendings by government will increase a little more rapidly than G.N.E.

As a substantial part of these capital items will be represented by provincial and municipal expenditure, it is reasonable to expect that some net borrowing by these levels of government will be entailed by the capital expenditure programmes. The current non-defence expenditure has been assumed to increase a little more rapidly than G.N.E. The net government revenue is closely tied to the government expenditure on goods and services. On reasonable assumptions of budgetary practices it appears likely that, on a national accounting basis, the three levels of government collectively will run a small deficit, associated with the relatively rapid expansion of the capital items, an expansion that is unlikely to be matched by non-budgetary sources of government revenue.

It must be emphasized that the assumptions about government expenditure and government deductions from the gross income stream are working assumptions for the purpose of this study. If the growth in government expenditure is more rapid, then a very large part of this increase will be matched by increased government deductions from G.N.E., thus matched by lower disposable personal income and lower consumer expenditure. Indeed, the bulk of any significant increase in the government expenditure on goods and services must come out of consumption, directly or indirectly.

It should also be pointed out that it is not a satisfactory working rule for our study to treat the government tax rates, deduction arrangements and transfer payments as being unchanged from their present position. This is because the marginal tax rates and deduction arrangements for all levels of government together are somewhat higher at the present time than are the average government deductions. Many of the transfer payments are fixed absolutely (or absolutely on a per capita basis), thus having no or a limited tendency to grow along with the growth in government revenue. In other words, with the present tax and transfer arrangements, a 100% increase in G.N.E. would yield considerably more than a 100% increase in the net government revenue. Whether the adjustment to the growing revenue under the present tax and transfer arrangements would take place by increased expenditures by government or by changes in the tax and transfer arrangements is a matter of public policy beyond the range of this study. It is clear however, that, if the government were to do no more than hold its present share of G.N.P., it would be necessary to reduce the tax rates or increase the deductions for tax purpose to keep net government revenue within the bounds of the expenditure programme.

(c) Gross Business Saving

The other main category for which a forecast is required in order to move from G.N.E. to personal disposable income is gross business saving. This consists of two elements: depreciation and similar business costs, and undistributed corporate profits. The historical record in Canada and in the United States was set out in Chapter 2. For Canada, depreciation allowances under peacetime, full employment conditions have not been a widely varying

proportion of G.N.P. at market prices; for example, the ratio of depreciation allowances to G.N.P. was approximately 11.2% in 1928-29 and 10.6% between 1952 and 1955. Undistributed corporation profits averaged 3.8% of G.N.E. in 1928 and 1929 and 3% of G.N.E. between 1953 and 1955. Some explanation of the trends in depreciation allowances and in undistributed corporation profits have been set out in Chapter 2. Depreciation allowances as a proportion of G.N.E. depend on the size of the stock of business capital (composition and average life), the depreciation practices of business (which in turn depend on the practices permitted by governments for tax purposes by the government). Past depreciation records and a projection of depreciation have been made in the study of output, labour and capital⁶. The judgment expressed there is that the depreciation allowances as a proportion of G.N.E. will increase fairly rapidly between 1955 and 1965 and will then gradually fall, but the 1980 level is expected to be higher than the average between 1953 and 1955. The ratios have been placed in Table 20. One of the main reasons for the expected relative growth in depreciation allowances is the belief that machinery and equipment will come to be a larger part of the stock of capital, and that the depreciation of machinery and equipment is considerably more rapid than that for structures. The long wave of fairly rapid increase in depreciation allowances relative to G.N.E. between now and 1965, followed by a decline in the ratio, is based on the idea that a replacement cycle in the capital stock may be expected.

In Chapter 2 it was shown that undistributed corporation profits have tended to be a quite stable percentage of corporation profits after taxes in the past, except in years of rapidly changing corporate income. The ratio has been slightly more than 50%. The main reason for the secular downward drift in undistributed profits as a percentage of G.N.E. was shown to be the increase in corporation profit taxes, an increase which was more rapid than the growth in the corporation profits before tax. As a working rule, considering the increasing government revenue under the present tax structure, it seems unlikely that the rates of corporation income tax would be higher in the future than they are at present. If the rates were unchanged from their present levels, then the growth in corporate income after tax would be the same in the future as the rate of growth in the corporate income before tax. Inasmuch as it seems reasonable to expect that the corporate sector will continue to grow somewhat relative to the total economy, it also seems reasonable to expect that the total corporate income will continue to grow somewhat relative to the total economy. Assuming that the historical stability in the ratio of undistributed profits to corporation profits after tax was to continue into the future, this would imply that the undistributed profits would be expected to increase a little more rapidly than G.N.E. in the future. Estimates of the ratio of undistributed corporation profits to G.N.E. are set down in Table 20.

⁶ Hood and Scott, *op. cit.*

Table 20

GROSS BUSINESS SAVING AS A PERCENTAGE OF G.N.P.

Year	Depreciation as % of G.N.P.	Undistributed profits as % of G.N.P.	Gross business saving as % of G.N.P.
1953.....	9.8	3.3	13.1
1954.....	11.1	2.5	13.6
1955.....	10.8	3.4	14.2
1960.....	10.8	3.1	13.9
1965.....	12.5	3.0	15.5
1970.....	12.5	3.2	15.7
1975.....	12.4	3.2	15.6
1980.....	11.9	3.3	15.2

(d) *Estimates of Personal Disposable Income, Aggregate and Per Capita*

The implied estimates of disposable personal income in Canada in the future have been set out in Table 23. These estimates have been based on the foregoing assumptions regarding the net government revenue and gross business saving. The forecasts have been made for the average of the high and low projections of G.N.E. in each succeeding five-year period. In addition, for 1980, forecasts of personal disposable income have been made for the high and for the low projections of G.N.P. All of the projections have been based on the assumption of a net annual immigration of 75,000 people. The forecasts have been made initially in terms of 1955 prices, and then have been converted to 1949 prices, deflating the projected disposable personal income by the implicit price index for personal expenditure on goods and services in Canada's national accounts.

The projections of personal disposable income might be summarized as follows:

(1) It is expected that the per capita personal disposable income will increase by approximately 70% during the next 25 years, and the aggregate personal disposable income is expected to increase by approximately 186% during the same period; both of these increases are approximately the same as the rates of increase in G.N.E. per capita or G.N.E. in the aggregate.

(2) During the next ten years it is expected that the growth in the personal disposable income will be slightly less rapid than in G.N.P., mainly because it has been thought that the depreciation allowances will increase as a proportion of G.N.P. Between 1965 and 1980 the projected growth in the personal disposable income is somewhat more rapid than in G.N.P., partly because of an expectation of decline in the net government deductions from the income stream and partly because depreciation, as a percentage of G.N.E., has been projected to fall slightly between 1970 and 1980.

III. *Aggregate and Per Capita Personal Expenditure on Consumer Goods and Services*

(a) *Introduction and Summary of Projections*

Having developed estimates of personal disposable income, the next step in predicting aggregate consumption expenditures is to make a judgment about the future relationship between consumption and disposable income. Our view is that the long-run ratio of consumption expenditures to personal disposable income will be constant, at approximately 94%, equal to the average position in recent years⁷. The forecast of personal expenditure also implies a forecast of personal savings at approximately 6% of personal disposable income.

This section is concerned with recording the levels of consumption expenditure based on this consumption-disposable income ratio, with examining various studies of past trends in long-run consumption and savings trends, and with the argument underlying our judgment regarding the long-run consumption-disposable income ratio.

(b) *The Prospects for Aggregate and Per Capita Consumption Expenditures*

The prospects for aggregate and per capita personal expenditure on consumer goods and services implied by the forecasts of Canada's G.N.P.,⁸ the relationship of personal disposable income to G.N.P.,⁹ and the ratio of consumption to personal disposable income set out above (*i.e.* 94%), are summarized in Tables 22 and 24. The expectation is that the aggregate personal expenditure on consumer goods and services will increase by the same degree as G.N.P. between 1955 and 1980. In other words, consumer expenditure is expected to account for approximately the same proportion of G.N.P. in 1980 as it did in 1954 and 1955. The growth is not expected to be uniform throughout the whole period; it is expected that the ratio of personal expenditure to G.N.E. will decline slightly between 1955 and 1965, thereafter increasingly slightly and reaching about the present levels by 1980. Roughly speaking, the projection is for a 70% increase in per capita personal expenditure between 1955 and 1980, which, when associated with a projected population increase of about 70%, implies almost a 190% increase in aggregate personal expenditure. It should also be remembered that the projections of the G.N.P. are based on assumptions that the average hours of work a week in the business sector of the economy will decrease

⁷ The ratio refers to consumption expenditures and disposable personal income as defined in the Canadian national accounts. In Chapter 2 and Appendix A of this study the difficulties of measuring the long-run trend in the personal savings ratio were explored. The judgment expressed earlier was that the long-run personal savings ratio under normal, peacetime, full-employment conditions has been constant during the last three decades at approximately 6% of personal disposable income.

⁸ Hood and Scott, *op. cit.*

⁹ See Tables 23 and 25.

by more than 15%, while the average hours of work per week in the agricultural sector of the economy are expected to decrease by more than 20%.

When interpreting these projections, certain statistical and other qualifications must be kept firmly in mind. While there is considerable evidence to support our assumptions regarding stability of the long-run personal savings-income and consumption-income ratios, evidence which we will consider in a moment, it must be frankly confessed that a definitive explanation of the effects on the ratios of past and prospective changes in income distribution, social security, interest rates and so on are not entirely clear.

Stability in the long-run consumption-income ratio does not preclude substantial short-run variation either of a random or of a systematic type. There is considerable evidence showing that the consumption-income ratio falls with cyclical increases in income and increases with a falling income. The introduction of new goods, the tightening or easing of consumer credit conditions, variations in harvest, and other factors can lead to short-run variations in the consumption-income ratio which are somewhat distinct from general fluctuations in business activity. Finally, quite apart from business cycle and other short-run fluctuations in the consumption—G.N.E. ratio, there is the possibility of a long cycle, such as a downward drift, in the ratio between (say) now and 1965, followed by an upward drift during subsequent years. Such a pattern is set out in our expectations, but it must be noted that much more work is required on replacement cycles before the timing and amplitude and problems of such cycles can be projected with a high degree of confidence.

(c) *The Evidence in Support of the Assumptions Regarding the Long-Run Trend of the Consumption-Disposable Income Ratio*

We have assumed that the long-run ratio of consumption to disposable income will be essentially constant at present levels. Further we are prepared to argue that, aside from major business cycles, major military mobilizations and very short-run changes, the ratio will fall within a very narrow range of the long-run forecast in all years. What justification is there for these propositions?

The main evidence is the historical record in Canada, the United States, the United Kingdom and some other countries, and studies which have been made of this record. It is quite clear that the record has been, in each country, barring major social upheavals, a strong tendency for a constant (though differing as between countries) proportion of consumption to income. We use the looser terms consumption and income here because a variety of concepts are involved, with slightly differing results. The historical record was indicated in Chapter 2.

It is quite possible that the historical constancy of the long-run consumption-income ratios may be the result of offsetting forces, some tending to increase the ratio and some to decrease it. Moreover it is quite possible

that these forces may be different in the future than they were in the past; thus the future consumption-income ratio could differ quite markedly from the historical record.

Before considering the various objective factors which may explain the constancy of the consumption ratio in the past and the various factors which may alter it in the future, we might stop and ask whether the high and increasing levels of consumption are intuitively plausible, and whether there have been marked changes in the subjective attitudes toward saving and consuming. When one examines his own behaviour, and observes his community, particularly when we compare ourselves and our fathers and our sons and daughters, it seems perfectly clear that we would have no great difficulty in adjusting to a level of living 70% higher than the present by 1980. If we are comparable to our parents in income and status, we find it hard to believe that they saved much more of their incomes than we of ours, including private pension funds and social insurance. Our sights on an acceptable level of living have gone up, *pari passu* with income. Within our society at any point of time it may be perfectly true that the man provides first for the immediate needs of himself and his family before he does much saving and that as income extends beyond some level, the saving ratio increases. But over time, it takes an increasing bundle of goods to provide adequately for himself and his family. If anything, the subjective pressures toward thrift may be less now than they were in the last generation.

One type of influence often cited nowadays as a cause of decrease in the ratio of savings to income is the decrease in the concern with precautionary saving activities. It is argued that there has been a major change in the psychological attitudes of consumers in that there is much less fear or expectation of a rainy day (or perhaps of a wild downpour) now than there was three decades ago. Confidence in the maintenance of full employment is part of the story. Farm income is more stable. There are more stabilizing elements in the income of the average urban worker than there used to be, such as old age pensions, family allowances, unemployment insurance benefits and so on. Partly because of these objective changes, it is argued that individuals are less interested in saving now than they used to be. Also it is argued that individuals will take on larger and longer debt commitments.

Let us now turn to the objective circumstances which have been advanced to explain changes (or lack of change) in the consumption-income ratio and the way in which these factors may influence the ratio in Canada's future. In recent years a number of important studies of long-run consumption and saving behaviour have been undertaken, including those by R. Friedman and D. Brady, J. Duesenberry, F. Modigliani, J. Tobin, R. Goldsmith, Milton Friedman, Ruth Mack and others¹⁰. The objective factors

¹⁰ For references see the footnote to Table 21.

which appear to have the most important influences on the aggregate consumption ratio (or aggregate saving) are:

1. changes in income distribution;
2. shifts in the location of the population, such as from farm to city;
3. changes in the rate of interest or rates of interest;
4. the wealth of the community or various forms of wealth, and the distribution of the ownership of the various forms of wealth;
5. the length of working life and of retirement life;
6. the provision of social insurance, including health, unemployment and old age, and of private pension arrangements;
7. the structure of the population, including family size, color, nativity, age and occupation;
8. the development of new goods.

In Table 21 a condensed summary has been prepared showing the objective factors which have been suggested as significant influences on the consumption ratio, the way in which each factor is thought to have made its influence felt, references to evidence on the influence of each factor and a tentative judgment on the magnitude of the effect. There have been offsetting changes in objective factors, *i.e.* some tending to increase and others to decrease the consumption ratio. In my judgment, the net effect of the objective factors has been to increase slightly the consumption-income ratio. Frankly, we have neither a completely satisfactory indication of the effects of changes in objective factors on the consumption ratio nor do we have any particularly good means of measuring the internally conflicting influences of various subjective factors.

(d) Objective Factors which may Influence the Prospective Consumption Ratio in Canada

Our terms of reference require a forecast of consumer expenditure. Recognizing fully the speculative nature of our comments, let us consider the possible future changes in the objective factors influencing the consumption ratio and the net impact of these factors on the ratio. The only justification for what follows is that it is better to indicate the bases of one's speculations than to hide them. First, while some further reduction in the proportion of the Canadian population dependent directly on farms for their livelihood will probably take place, the rate of decline in farm population must be slower in the future than it has been during the past three decades. Thus, the stimulus to the aggregate consumption ratio which has arisen from a relative increase in urbanization will be somewhat less powerful in the future. Second, average family size has fallen in the past. Apparently, during the population boom of last the 15 years, the decline in

Table 21

OBJECTIVE FACTORS INFLUENCING THE AGGREGATE CONSUMPTION—INCOME RATIO

Factor	Way in which factor influences the consumption ratio	Evidence	The direction and size of change in the consumption ratio attributable to each factor
A. Factors which appear to have increased the consumption-income ratio			
1. The proportion of the population deriving a living from farms has decreased.	The independent business activity on the farm, and greater variability of farm income leads to higher savings ratios.	R. Friedman and D. Brady ^a M. Friedman ^b Goldsmith ^c	The non-farm of the proportion population has declined quite sharply in the past. M. Friedman argues persuasively that this factor could not account for more than a drop of 2 points in the aggregate saving-income ratio in the United States between 1900 and 1950.
2. There has been a substantial increase in the provision of social insurance (health, unemployment, retirement), private pension and insurance arrangements and measures to stabilize farm income; many of these are not fully funded so the direct private cost is less than the accumulated benefits.	These developments reduce the contingencies for which the individual must provide by his personal saving, thus tending to increase the consumption ratios.	Goldsmith ^c M. Friedman ^b	This appears to be a very important influence, but (7) and (8) below are offsetting factors. In terms of the concepts used in the Canadian national accounts, this factor is more important than in Goldsmith's study, because the Canadian accounts exclude employer and employee contributions to social insurance and government pension funds and taxes earmarked for such purposes from disposable income and personal saving.
3. The relative decline of non-farm unincorporated business.	Those in unincorporated business and independent professional practice have higher savings ratios than those occupied as corporate or government employees.	Friedman and Brady ^a Milton Friedman ^b	This appears to have been a relatively small factor in the aggregate during the last quarter century.

Table 21 (Cont'd)

OBJECTIVE FACTORS INFLUENCING THE AGGREGATE CONSUMPTION—INCOME RATIO

Factor	Way in which factor influences the consumption ratio	Evidence	The direction and size of change in the consumption ratio attributable to each factor
4. A substantial equalization of the distribution of income has apparently taken place in the last three decades.	At one time it was thought that such an equalization would have a very powerful tendency to increase the aggregate consumption ratio. The expectation was based on observation of the distribution of income and savings during short periods of time.	Smithies ^c M. Friedman ^b Kuznets. ^f	While the evidence is not clear the present view is that the undeniably sizable change in the income distribution has had a relatively small net effect on the long-run consumption ratio. The net effect has been to increase the consumption ratio.
5. The development of new goods.	It has been argued that this is an important factor tending to increase the consumption ratio.	Smithies ^c Modigliani ^g Duesenberry. ^h	No direct test of this hypothesis is available. Intuitively the increases in income appear to be as much a cause as an effect of the introduction of new goods.
B. Factors which appear to have decreased the consumption-income ratio			
6. Average size of family has decreased.	For families which are otherwise comparable, the consumption ratio increases with average family size.	M. Friedman ^b Brady ^d	M. Friedman indicates that this effect is sizable and probably accounts for a decline of 2 points in the consumption ratio in the United States between 1900 and 1950.
7. Length of working life appears to have fallen.	Increased life expectancy increases average number of years of work, but a later start and earlier retirement tends to decrease the years. This means fewer years, in which to accumulate retirement assets and estates.	R. Goldsmith ^e	
8. Length of retirement life has increased and the extent to which support can be obtained during retirement from family and friends decreased.	By increasing the provision which must be made for retirement, these factors increase the savings ratio.	R. Goldsmith ^e	The combination of (7) and (8) appears to have been a substantial factor but has been probably offset by factor (2) discussed above.

Table 21 (Cont'd)

OBJECTIVE FACTORS INFLUENCING THE AGGREGATE CONSUMPTION—INCOME RATIO

Factor	Way in which factor influences the consumption ratio	Evidence	The direction and size of change in the consumption ratio attributable to each factor
C. Factors which appear to have little net effect on the consumption-income ratio or on which the evidence is mixed at the present time			
9. Changes in the ratio of the non-human wealth to income.	The more wealth one has, the less attractive is additional saving, <i>i.e.</i> , the higher is the consumption ratio.	M. Friedman ^b	Apparently the ratio of non-human wealth to income has declined in the United States during the last half century, thus tending to reduce the consumption ratio. Friedman considers this to be a minor factor.
10. A decline in the rate of interest or rates of interest.	The effect of changes in the rate of interest on the savings ratio is a very old debate. An increase in the rate of interest has opposing effects on the savings ratio. By making borrowing more expensive it encourages saving. By increasing the yield on assets, it on the one hand encourages saving and lending and on the other decreases the rate of saving required to achieve any fixed objective such as a given retirement income.	Keynes ^c Goldsmith ^e Friedman ^b	The consensus seems to be that the rate of decline in the rate of interest has not been such as to materially alter the long-run savings ratio.

^a Dorothy S. Brady and Rose Friedman "Savings and Income Distribution" New York: National Bureau of Economic Research, *Studies in Income and Wealth*, Vol. 10, 1947.

^b Milton Friedman, *A Theory of the Consumption Function*, mimeographed manuscript, New York: National Bureau of Economic Research, 1955.

^c Raymond W. Goldsmith, *A Study of Saving in the United States*, Princeton, Princeton University Press, 3 volumes, 1955 and 1956.

^d Dorothy S. Brady "Family Savings in Relation to Changes in the Level and Distribution of Income", *Studies in Income and Wealth*, Vol. XV, National Bureau of Economic Research.

^e Arthur F. Smithies, "Forecasting Postwar Demand", *Econometrica*, January, 1945, Vol. XIII.

^f Simon Kuznets, *Shares of Upper Income Groups in Income and Savings*. New York: National Bureau of Economic Research, 1953.

^g Franco Modigliani, "Fluctuations in the Saving-Income Ratio" in *Studies in Income and Wealth*, Vol. XI, New York: National Bureau of Economic Research, 1949.

^h J. M. Keynes, *The General Theory of Employment, Interest and Money*, London, MacMillan, 1936.

family size has been reversed. In the past, the decrease in average size of family was an important influence tending to reduce the consumption ratio. While it is sheer speculation, my inclination is to think that the full impact of the population boom on average family size has not yet been fully felt. Thus a significant upward pressure on the consumption ratio is expected on this account.

Third, during the past three decades there have been significant increases in the provisions of social security measures in Canada, including the unemployment insurance arrangements and (recently) public old age pensions without a means test. The introduction of a public health insurance scheme is likely. Net accumulation of assets associated with these programmes are not included in personal savings in Canada's national accounts. In addition to the social security measures, a number of programmes have been adopted (or the public appears to believe that such programmes will be undertaken when contingencies arise) which significantly reduce the short-run contingencies (such as fluctuating incomes) which the individual must meet out of his own assets. Family allowances are unchanged by fluctuations in individual income. Farmers believe that they will not face as severe fluctuations in their incomes due to price variations in the future as they have in the past. It seems more likely that these social security measures and public provision for private contingencies will increase than decrease in the future. An increase in these provisions would tend to reduce the (personal) saving ratio and increase the consumption ratio, using these ratios in the sense in which they are defined in Canada's national accounts. (If the public measures are fully funded, the changes in the personal saving ratio will be partially or fully offset by the opposite change in what we might call the government saving ratio.)

Fourth, when considering the effect of extension of social security schemes, we should also consider the other objective factors which influence the size of the contingencies to be met, assets to be acquired and alternative means of meeting family objectives. Goldsmith placed a good deal of emphasis on the shorter work life and increasing of the period of retirement (due to both longer life and earlier retirement) as pressures toward a higher saving ratio, and thus toward a lower consumption ratio. We find it hard to believe that the average working life will be reduced much in the future. It is boring to have no useful work to do when you are physically fit and mentally alert. Thus we believe that pressures toward an increase in the aggregate saving ratio through shortening of working life will not be important factors tending to alter the consumption ratio in the future from what it is at present.

It is probable that family and friends may become even less important as a medium for meeting contingencies and retirement needs in the future than they now are. This would tend to decrease the consumption ratio. In my judgment, the combined development of private and public insurance and pension arrangements more than offsets this factor.

Fifth, it is well known that there is a cycle of saving through an individual's or family's lifetime which depends on age and such other factors, as marriage. Thus if we have a change in the distribution of our population by age, age of family formation and ages at which children are borne, the changing distribution could alter the aggregate saving (and consumption) ratio. A man typically saves a larger proportion of his income when he is 50 than when 20, *ceteris paribus*, and saves a smaller proportion at 70 than at 50. Thus if the proportion of the population at age 50 was to increase relative to that at age 70, the aggregate saving ratio would probably rise. Further, the family life-cycle of saving may be influenced by the age at which the family is formed and the age of parents when raising the family and still with dependent children. If the average ages at which families are formed and at which the family is free of dependent children are reduced, these changes will tend to decrease the family's saving ratio (say) between ages 30 and 40, and increase it (say) between the ages of 45 and 60.

There is very little evidence on the net effect of factors such as these in the aggregate consumption ratio. The forecasts of population prepared for the Commission suggest that the age distribution of the population, the ages of family formation and the period of children being dependent on parents are not expected to change significantly¹¹.

Sixth, we expect that the process of equalization of the distribution of income will probably continue in the future. The most powerful factor in the change has been the increase in importance of a progressively-structured income tax, together with an increase in the level of inheritance duties. We have probably not yet felt the full impact of the changes in these taxes which have taken place since prewar days. It seems unlikely that the progressive structure of these taxes will be changed. To the extent that a further equalization takes place, it will result in a (small) further increase in the consumption ratio, *ceteris paribus*.

Finally, changes in the rates of interest, in the ratio of non-human wealth to income and the relative decline of non-farm unincorporated business appear to have had little influence on the consumption ratio in the past, and are unlikely to have significant influence in the future. The development of new goods will have an influence of indeterminate size toward maintaining the consumption ratio at its present high level.

The net result of our toting up of objective factors is to suggest that these factors will tend to offset one another so that the long-run consumption-disposable income will be unchanged from present levels, *i.e.* about 94% of personal disposable income. The resultant estimates of consumption are found in Tables 22 and 24. If there is any long-run change, it is more likely to be an increase in the consumption—personal disposable income ratio than a decrease, using the national accounts concepts.

¹¹ Hood and Scott, *op. cit.*

If, however, personal saving were redefined to include the net accumulation of durable consumer goods, it is our judgment that such a saving measure would increase relative to personal disposable income in the future. This would be partly offset by a relative reduction of household saving in the form of owner-occupied houses.

Table 22

SUMMARY OF PROJECTIONS OF PERSONAL DISPOSABLE INCOME AND AGGREGATE PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES

	G.N.P. ^a	Aggregate P.D.I. ^b	Per capita P.D.I. ^b	Aggregate consumption ^c	Per capita consumption ^c
	\$ (1949) billions	\$ (1949) billions	\$ (1949)	\$ (1949) billions	\$ (1949)
1955.....	21.6	15.4	985	14.3	914
1965.....	32.4	22.6	1,158	21.3	1,091
1970.....	40.7	28.6	1,322	26.9	1,243
1975.....	50.3	35.6	1,484	33.4	1,392
1980.....	61.8	44.1	1,655	41.6	1,561

^a All projections based on average of high and low G.N.P., based on assumption of 75,000 net immigration.

^b P.D.I.—personal disposable income.

^c Consumption—personal expenditure on consumer goods and services.

SOURCE: G.N.P.: Wm. C. Hood and Anthony Scott: *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

P.D.I. and consumption: See Tables 23, 24, 25. Population for computing per capita magnitudes same source as G.N.P.

Table 23

VARIOUS PROJECTIONS OF PERSONAL DISPOSABLE INCOME IN CANADA

Year	Projections in 1955 \$				Projections in 1949 \$				
	G.N.P.	Aggregate personal disposable income	Aggregate personal disposable income as % of G.N.E.	Index of G.N.E. 1955 = 100	Index of P.D.I. 1955 = 100	G.N.E.	Aggregate P.D.I.	Per capita P.D.I.	Index of per capita P.D.I. 1955 = 100
	\$ billions	\$ billions	%	Index	Index	\$ billions	\$ billions	\$	Index
Part A: Projections based on average of high and low forecasts of G.N.E.									
1955.....	26.8	18.2	67.9	100.0	100.0	21.6	15.4	985	100.0
1965.....	39.9	26.7	66.9	150.0	146.8	32.4	22.6	1,158	117.6
1970.....	50.2	33.8	67.3	188.4	185.7	40.7	28.6	1,322	134.2
1975.....	62.0	42.0	67.7	232.9	231.2	50.3	35.6	1,484	150.7
1980.....	76.2	52.1	68.4	286.1	286.4	61.8	44.1	1,655	168.0
Part B: Projections for 1980 based on high and low G.N.E. separately	Low in 1955 \$				High in 1949 \$				
	G.N.E.	P.D.I.	G.N.E.	P.D.I.	G.N.E.	P.D.I.	G.N.E.	P.D.I.	
1980.....	82.1	56.1	70.4	48.0	66.6	47.7	57.1	40.7	

Table 24

CANADA: PROSPECTS FOR PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES

Year	In 1955 \$				In 1949 \$			
	G.N.E. (\$ billions)	Aggregate consumption (\$ billions)	Aggregate personal savings (\$ billions)	Consump- tion as % of G.N.E. %	Index of aggregate consump- tion (1955 = 100)		Index of per capita consump- tion (1955 = 100)	
					Index	\$	Index	\$
Part A: Based on average of high and low G.N.E. (assuming net annual immigration of 75,000)								
1955.....	26.8	16.9	1.3	63.1	100.0	1,081	100.0	21.6
1965.....	39.9	25.1	1.6	62.9	149.0	1,286	119.3	32.4
1970.....	50.2	31.8	2.0	63.3	188.1	1,470	136.3	40.7
1975.....	62.0	39.5	2.5	63.7	233.6	1,647	152.3	50.3
1980.....	76.8	49.1	3.0	64.4	290.9	1,842	170.7	61.8
Part B: Based on high and low G.N.E. forecasts separately								
1980.....								
	High in 1955 \$				Low in 1955 \$			
	G.N.E.	Consumption	G.N.E.	Consumption	G.N.E.	Consumption	G.N.E.	Consumption
	82.1	52.8	70.3	45.1	66.5	44.6	57.0	38.1
	High in 1949 \$				Low in 1949 \$			
	G.N.E.	Consumption	G.N.E.	Consumption	G.N.E.	Consumption	G.N.E.	Consumption

Table 25

FORECASTS OF PERSONAL DISPOSABLE INCOME AND PERSONAL EXPENDITURE—DETAILS

(\$ billions unless otherwise stated)

	1953	1954	1955	1965	1970	1975	1980
A. In 1955 dollars							
1. G.N.E. in 1955 \$.....	24.5	24.3	26.8	39.9	50.2	62.0	76.2
2. Net government current deductions.....	4.6	4.2	4.8	7.0	8.5	10.3	12.5
3. Undistributed profits.....	0.8	0.6	0.9	1.2	1.6	2.0	2.5
4. Depreciation.....	2.4	2.7	2.9	5.0	6.3	7.7	9.1
5. Personal disposable income.....	16.7	16.8	18.2	26.7	33.8	42.0	52.1
6. Personal expenditure.....	15.1	15.8	16.9	25.1	31.8	39.5	49.1
7. Personal saving.....	1.6	1.0	1.3	1.6	2.0	2.5	3.0
8. Net govt. deductions as % of G.N.E.....	18.8	17.3	17.9	17.5	16.9	16.6	16.4
9. Undistributed profits as % of G.N.E.....	3.3	2.5	3.4	3.0	3.2	3.3	3.3
10. Depreciation as % of G.N.E.....	9.8	11.1	10.8	12.5	12.5	12.4	11.9
11. Disposable income as % of G.N.E.....	68.2	69.1	67.9	66.9	67.3	67.7	68.4
12. Personal expenditure as % of G.N.E.....	61.6	65.0	63.1	62.9	63.3	63.7	64.4
B. In 1949 dollars							
13. G.N.E.....	20.3	19.8	21.6	32.4	40.7	50.3	61.8
14. Personal disposable income.....	14.3	14.2	15.4	22.6	28.6	35.6	44.1
15. Personal expenditure.....	12.9	13.4	14.3	21.3	26.9	33.4	41.6
16. Personal disposable income as % of G.N.E.....	70.4	71.7	71.3	69.8	70.3	70.8	71.4
17. Personal expenditure as % of G.N.E.....	63.5	67.7	66.2	65.7	66.1	66.4	67.3
C. Per capita in 1955 \$							
18. G.N.E.....	1,658.0	1,599.0	1,714.0	2,044.0	2,320.0	2,584.0	2,859.0
19. Personal disposable income.....	1,130.0	1,105.0	1,164.0	1,368.0	1,562.0	1,751.0	1,955.0
20. Personal expenditure.....	1,022.0	1,040.0	1,081.0	1,286.0	1,470.0	1,647.0	1,842.0
D. Per capita in 1949 \$							
21. G.N.E.....	1,374.0	1,303.0	1,381.0	1,660.0	1,881.0	2,097.0	2,319.0
22. Personal disposable income.....	968.0	934.0	985.0	1,158.0	1,322.0	1,484.0	1,655.0
23. Personal expenditure.....	873.0	882.0	914.0	1,091.0	1,243.0	1,392.0	1,561.0
E. Indexes, 1955 = 100							
24. G.N.E. in 1949 \$.....	94.0	91.7	100.0	150.0	188.4	232.9	286.1
26. Personal expenditure in 1949 \$.....	92.9	92.2	100.0	146.8	185.7	231.2	286.4
27. Per capita G.N.E. in 1949 \$.....	90.2	93.7	100.0	149.0	188.1	233.6	290.9
28. Per capita disposable income in 1949 \$.....	99.4	94.3	100.0	120.2	136.2	151.8	167.9
29. Per capita personal expenditure 1949 \$.....	98.3	94.9	100.0	117.6	134.2	150.7	168.0
30. Mid-year population.....millions	95.5	96.4	100.0	119.3	136.0	152.3	170.7
31. Index of population, 1955 = 100.....	14.78	15.20	15.64	19.52	21.64	23.99	26.65
NOTE: The data in lines 1-12 and 18-20 are in 1953 dollars for the column marked 1953, and 1954 dollars for the column marked 1954.	94.5	97.2	100.0	124.8	138.4	153.4	170.4

TRENDS AND PROSPECTS: THE DISTRIBUTION OF CONSUMER EXPENDITURE

I. Introduction and General Conclusions

This chapter is concerned with trends and prospects for various types of consumption and personal expenditure on consumer goods and services in Canada. Such questions as the following are asked: what is the prospective increase in personal expenditure on, for example, food and clothing and shelter during the next 25 years? What are the main implications of these prospects for Canada's agricultural production, or the Canadian textile industry, or the investment in housing? The chapter begins with a statement of the scope and method of the subsequent forecasting ventures. This is followed in Section II by some broad generalizations about trends and prospects for the pattern of Canadian consumption. The main body of the chapter (Sections III to XIII) deals with the trends and prospects for specific groups of goods and services. Some technical discussion of data, forecasting methods and assumptions has been placed in Appendix C.

(a) Scope and Method

At the outset it is of the utmost importance that the limited nature of this study of prospects for various types of consumer expenditure be stated. Forecasting activities depend on the use to be made of the predictions and the time and resources available. Both factors act as limitations on this study. Within the terms of reference of the Commission, the purpose of a study of consumer expenditure is to provide some direct insight into the past and prospective character and content of Canadian economic growth and, indirectly, to provide an aid to or check on other studies of trends and prospects. The right or the wrong kinds of consumption and the specific prospects for any particular investment project in a particular industry are not the things dealt with here. Of course these things are important, but they are beyond our terms of reference. However, some direct insight into Canadian economic growth should be provided. For example, there already has taken place a comparatively rapid growth of secondary industry in

Canada. This is fundamentally based on supplying the domestic market. Similarly, the growth in the future will probably be based mainly on the domestic market. Changes in the pattern of consumer expenditure provide an important clue to the growth which has been observed and to the prospects for further growth.

The study also aims at providing some indirect aid to other studies carried out by the Commission's staff. The dimensions of certain problems depend on the growth in demand for various kinds of goods and services in Canada. Thus, forecasts of consumer expenditure provide an aid or a check to appraisal of these problems. To cite a few examples:

- (a) The nature of Canada's domestic agricultural prospects and problems depends on the growth and pattern of Canadian demand for agricultural products, particularly the demand for food. Forecasts of the demand for farm output and the prospects for Canadian agriculture should be consistent with the expected pattern of change in consumer expenditure.
- (b) The forecasts for investment in housing and the social capital requirements attendant on housing growth must be reconciled with the probable consumer expenditure on shelter.
- (c) The competitive position of various parts of Canadian secondary industry depends to some extent on the probable scale of operation which they achieve. In many cases, the prospective scale depends on the growth in domestic consumer expenditure.

Many more situations of this type arise, such as the connection between the stock of automobiles and the need for roads, the willingness of families to make expenditures on advanced education for their children and the general problem of finding enough resources for such education, the dependence of investment on the pattern of consumer demand to be met.

In addition to the limited investigation imposed by the terms of reference, the study is also restricted by the resources which could be devoted to it. A great deal of professional work of widely varying degrees of sophistication has gone into this field in other countries during the past two centuries, but surprisingly little has been done in Canada. The results of even the most sophisticated efforts in the measurement, analysis and prediction of consumer demand have been somewhat disappointing. In his recent monumental work, Richard Stone has summed up the situation thus:

"The apparent importance of terms involving time in analysis of market demand indicates a serious situation, particularly from the point of view of prediction. For it suggests that the main long-term factors determining market demand are not income and prices at all, but are influences which it is hard to specify and still harder to measure. In such a situation prediction, except over a very short period, must be extremely unreliable, since the prediction depends largely on the extrapolation of a simple function of time and not on the response to clearly specified and measurable influences."¹

¹ Richard Stone, *The Measurement of Consumers' Expenditure and Behaviour in the United Kingdom, 1920-38*, Cambridge, Cambridge University, 1954.

Because our resources were quite limited, the procedures followed in this study are of the less sophisticated kind; they consist essentially of impressionistic analysis and extrapolation of the past experience. We ask first, what have been the past trends? Next, what have been the circumstances underlying or conditioning these trends? Third, in what ways are future circumstances expected to be different from those in the past and how are these changes expected to alter the trends? Finally, judgments are expressed about the prospects. In view of the limitations of even the most sophisticated work on analysis and forecasting of consumer demand, and the fact that our procedures are of the less sophisticated type, our judgments must be treated quite frankly as a rough exploratory view of prospects. Such a venture can only be justified by the argument that some view is required for the Commission's activities, and that it is better to use, even in an unsophisticated way, the information which is available than it is to follow the counsel of studied ignorance.

II. A General View of the Prospects for the Distribution of Consumer Expenditure in Canada

In Sections III to XIII of this chapter, the trends and prospects for various classes of personal expenditure are examined. Before considering these groups, it may be useful to look briefly at the broad sweep of trends in consumer expenditure and to summarize some of the results which follow.

Canadian prospects are for a comparatively rich people to become even richer in a material sense. It follows that smaller and smaller fractions of real incomes will be required to meet the minimum physical requirements for nutrition, clothing, shelter and cleanliness. However, this does not mean a slackening of efforts to obtain and spend higher incomes. Nor does it mean that expenditures on food, shelter and clothing will account for substantially smaller fractions of Canadian budgets, as the quality and degree of processing can increase substantially. Life in North America seems to be an endless process of acquiring and aspiring to higher levels of material comfort.

During the past three decades Canadian personal expenditure habits have continued to approach those in the United States. Some significant differences still exist and will probably continue. Canadians have smaller incomes than Americans and there is no prospect of significant change in this regard. It follows that Canadian personal holdings and consumption of some of the more expensive goods and services have been and will continue to be less than in the United States. This judgment particularly applies to consumer durable goods. Because the Canadian climate is more extreme than the average in the United States, Canadians will continue to find that protection against heat and cold takes larger fractions of their budgets. Also, Canadians face significant higher prices for many manufactured goods, and this tends to curtail the Canadian consumption of these goods.

It is our view that food, tobacco, clothing, shelter, fuel, household supplies and personal care will account for somewhat smaller fractions of the Canadian budget in the future than they do at present. For food, the growth in expenditure at retail levels will be very much faster than the increase in the quantity of food consumed. For most products, the manufactured content is expected to increase. On the other hand, it is our view that the fraction of Canadian personal budgets devoted to the purchase and maintenance of household durables; the purchase and operation of automobiles; medical care; travel and recreational activities; electricity, gas and telephone; and university education will increase. Right across the board, Canadians have tended to spend substantial portions of their increased incomes on improved quality of goods or services, or on increased speed. It seems reasonable to expect these trends to continue.

It seems quite likely that the price of labour intensive services will increase substantially relative to the general level of prices of consumer goods and services. This implies an attempt to economize on the use of such services. In quite a number of cases, substitution of capital equipment for labour is probable and it seems likely that the proportion of our budgets devoted to such services will decrease quite rapidly. In other cases, such substitutions are not readily possible, and despite attempts to economize, many of these services will probably account for increased fractions of our total expenditure.

Our views of the trends in expenditure for various classes of goods are summarized in Table 26. The prospects for durables are set out in somewhat greater detail in Table 27.

III. Food

In recent years, expenditure on food, including restaurant meals, has accounted for almost 25% of total personal expenditure in Canada; this is almost as large a proportion as in the late 1920's. In other words, expenditure on food has increased almost as rapidly as total personal expenditure on all consumer goods and services. This is a somewhat surprising trend in view of the general expectations that the fraction of total expenditure devoted to food will decrease substantially as levels of living improve. Also, the growth in expenditure on food is much more than would be expected from data on the volume of food consumed. This section of the study is concerned with exploring the trends in food expenditures and the consumption of food, with relating the expenditure on food to the volume of food consumption, and with the prospects for expenditure.

(a) Trends in Expenditure on Food

Two kinds of information are available on past trends in the expenditure on food in Canada, the first being the national accounts, and the other being selected surveys of family expenditure. In the national accounts,

Table 26

SUMMARY OF PROSPECTS—DISTRIBUTION OF PERSONAL EXPENDITURE
ON CONSUMER GOODS AND SERVICES

	Average annual expenditure in constant (1949) \$			% of total personal expenditure in constant (1949) \$		Prospective % of total personal expenditure		Prospective expenditure in constant (1949) \$		Prospective expenditure in 1980 as % of expenditure in 1952-55
	1926-29	1952-55		1926-29	1952-55	1965	1980	1965	1980	
1. Food.....	1,762.3	3,612.2		29.89	26.96	26.0	24.5	5,540	10,192	282
1.1 Purchased food.....	1,309.9	2,938.8		22.21	21.94	—	—	—	—	—
1.2 Restaurant meals.....	267.1	415.2		4.53	3.10	—	—	—	—	—
1.3 Other food.....	185.3	258.2		3.14	1.93	—	—	—	—	—
2. Tobacco.....	143.1	437.4		2.43	3.26	3.52	2.74	750	1,140	261
3. Alcoholic beverages.....	175.8	726.8		2.99	5.42	5.50	5.50	1,172	2,288	314
4. Clothing and personal furnishings.....	820.5	1,655.4		13.92	12.36	11.80	11.20	2,513	4,660	272
4.1 Clothing, footwear, piece goods and notions.....	715.0	1,426.6		12.12	10.65	—	—	—	—	—
4.2 Jewellery.....	44.9	98.3		0.76	0.73	—	—	—	—	—
4.3 Maintenance of personal furnishings.....	60.6	130.5		1.02	0.98	—	—	—	—	—
5. Household operation (incl. landlord's fuel costs).....	803.3	1,700.4		13.63	12.70	13.53	13.96	2,882	5,807	342
5.1 Fuel.....	193.7	428.2		3.30	3.20	}				
5.2 Electricity and gas.....	42.1	172.0		0.71	1.29					
5.3 Telephone.....	36.4	130.1		0.61	0.98					
5.4 Household supplies, insurance, moving, furniture and appliance repair.....	95.2	173.1		1.61	1.36					
5.5 Domestic service.....	142.7	50.6		2.42	0.38	(8.51)	(8.51)	(1,815)	(3,545)	303
5.6 Home furnishings.....	79.8	182.9		1.35	1.37					

SUMMARY OF PROSPECTS—DISTRIBUTION OF PERSONAL EXPENDITURE
ON CONSUMER GOODS AND SERVICES

Table 26 (cont'd)

	Average annual expenditure in constant (1949) \$		% of total personal expenditure in constant (1949) %		Prospective % of total personal expenditure		Prospective expenditure in constant (1949) \$		Prospective expenditure in 1980 as % of expenditure in 1952-55
	1926-29	1952-55	1926-29	1952-55	1965	1980	1965	1980	
5.7 Furniture.....	94.8	218.1	1.60	1.63	(1.65)	(1.65)	(351)	(686)	315
5.8 Household appliances, radio and TV sets.....	118.7	365.9	2.01	2.73	(3.37)	(3.80)	(718)	(1,581)	432
6. Space rent.....	762.4	1,345.5	12.92	10.03	9.50	8.50	2,024	3,536	263
7. Transportation.....	554.0	1,683.4	9.39	12.57	12.65	13.50	2,693	5,502	327
7.1 Autos, new and used.....	262.9	804.6	4.46	6.01	(5.20)	(5.40)	(1,105)	(2,190)	272
7.2 Gas, oil and grease.....	81.9	404.9	1.37	3.02	{		{		421
7.3 Auto parts and accessories..	32.0	83.9	0.54	0.63					
7.4 Auto repairs and other auto operation.....	37.3	134.4	0.63	1.00	(1.75)	(1.65)	(373)	(687)	268
7.5 Purchased transportation...	140.9	256.0	2.39	1.91	7.30	8.35	1,555	3,475	374
8. Personal and medical care....	357.1	927.7	6.08	6.92	(4.35)	(5.10)	(925)	(2,125)	384
8.1 Medical care and death expenses.....	222.5	553.8	3.77	4.13	(2.25)	(2.60)	(480)	(1,080)	393
8.2 Drugs, cosmetics and toilet preparation.....	82.7	274.5	1.40	2.06	(0.70)	(0.65)	(150)	(270)	271
8.3 Personal care.....	51.9	99.4	0.88	0.74	10.20	11.75	2,170	4,900	308
9. Miscellaneous.....	516.6	1,289.4	8.75	9.62	100.0	100.0	21,300	41,600	311
10. Total personal expenditure on consumer goods and services.....	5,896.6	13,396.0	100.0	100.0					

Table 27

CANADA: PROSPECTS FOR PERSONAL EXPENDITURE ON DURABLES^a

Item	Expenditure in current \$			Expenditure in constant (1949) \$				
	% of total personal expenditure					1926-29	1952-55	1955
	1926-29	1952-55	1955	1926-29	1952-55			
Part A								
1. Jewellery and watches..	0.88	0.67	0.62	0.76	0.73	2.93	0.75	0.75
2. Home furnishings.....	1.36	1.36	1.31	1.35	1.37	1.36	1.37	1.37
3. Furniture.....	1.29	1.61	1.59	1.60	1.63	1.65	1.65	1.65
4. Appliances and radios..	1.14	2.51	2.54	2.01	2.73	2.96	3.37	3.80
5. Autos.....	2.77	5.77	6.00	4.46	6.01	7.20	5.20	5.40
6. Total.....	7.44	11.92	12.07	10.18	12.47	13.65	12.34	12.97
Value of Expenditures								
	Current \$			Constant (1949) \$				
Part B								
7. Jewellery and watches..	37	106	108	45	98	98	160	312
8. Home furnishings.....	57	215	226	80	183	195	292	569
9. Furniture.....	54	254	274	95	218	237	351	686
10. Appliances and radios..	81	397	438	119	366	426	718	1,581
11. Autos.....	116	912	1,036	263	805	970	1,105	2,190
12. Total.....	344	1,883	2,082	601	1,670	1,924	2,626	5,338
13. Total personal expenditure....	4,188	15,804	17,240	5,897	13,366	14,337	21,300	41,600

^a The concept of consumer durables used here is that found in Canada's *National Accounts*. In principle the group should be expanded to include gardening and sporting equipment, boats and trailers, some portion of auto accessories and home tools. If such a broadening of the concept were made, both the historical trend and the prospective fraction of personal expenditure devoted to consumer durables would increase.

expenditure on food includes the retail sales of food products, total expenditure on restaurant meals, and an estimate of the income in kind provided as food in agriculture, to the armed forces and to other sectors of the economy. Thus the national accounts data include not only the value of the food at the primary source, but also the whole package of manufacturing and distribution activities which intervene between the primary source and retail sale, and the services which are included with restaurant meals. These national accounts measures show that expenditures on food were a slightly smaller fraction of total personal expenditure in recent years than they were three decades ago. (See Table 28.) In current dollars, for example, food accounted for 28.4% of total personal expenditure between 1926 and 1929, and 26.4% between 1950 and 1953; in constant (1949) dollars, the proportion has fallen from 29.9% in the earlier period to 27.0% in the recent

period². If an estimate of the service portion of restaurant meals is deducted from the total expenditure on food, on the ground that such services are a form of entertainment, the trend in the proportion of food expenditure to total expenditure is not significantly altered.

Three surveys of urban family expenditure in Canada were available at the time of this study, one each for 1937-38, 1947-48 and 1953³. These are useful as independent evidence on the proportion of income devoted to food expenditure and as a source of detail on kinds of food on which expenditure takes place. These surveys show the following proportions of total consumer expenditure on food:

1937-38	— 32.4%
1947-48	— 30.9%
1953	— 30.9%

The proportions of expenditure on food are slightly higher than those obtained from the national accounts, partly because the sample is confined to urban groups and partly because the average income of the sample is below the urban average. The interesting feature of these data is the relative stability in the proportion of total expenditure devoted to food — it is the same in 1953 as it is in 1947-48, and only 1.5 points lower in the later years than in 1937-38, despite the great improvement in economic circumstances between these dates⁴.

Some indication of the distribution of food expenditure by type of commodity is given in Table 29. The data are derived from the reports on the family budget surveys. The most interesting feature is the relative increase in various types of expenditure between 1937-38 and 1953. Expenditure on meat (including poultry and fish) has increased much more rapidly than the average food expenditure per person while expenditure on dairy products, cereals (including bakery products) and eggs have increased by much less than the average. Expenditure on vegetables has increased proportionately with total expenditure. It is not possible to infer income elasticities or trends in tastes directly from these data; however, the data are suggestive of either high income elasticities or strong shifts of

² See Appendix B to this study regarding statistical problems of the data on consumer expenditure

³ For reference to these D.B.S. surveys see bibliography to the study.

⁴ There is an important sampling problem which may affect the comparability of successive family budget studies. Consider families classified by the size of family income. A survey of family expenditure covers only a portion of the range of such a distribution. It is possible that the portion of the distribution covered in various family budget surveys may not be the same — thus the expenditure patterns in the various studies may not be directly comparable. We have inspected the three Canadian surveys cited above. This inspection, together with fragmentary data on other features of the distribution of income in Canada, has led us to the impression that this possible source of bias is not a serious problem affecting the comparability of the three studies.

Table 28

CANADA: EXPENDITURE ON FOOD AND OTHER DATA
ON FOOD PRODUCTION AND IMPORTS

	1926-29 average	1951-53 average	1954	1955
1. Expenditure on food including restaurant meals as % of total personal expenditure—both in current \$.....	28.4	26.4	26.1	25.1
2. Expenditure on food including restaurant meals as % of total personal expenditure—both in constant (1949) \$.....	29.9	27.0 ^a	27.4	26.6
3. Expenditure on food (adjusted to exclude the service portion of restaurant meals) as % of total personal expenditure—current \$.....	26.3	24.3	24.6	23.7
4. Same as 3—constant (1949) \$.....	22.2	22.0 ^a	25.9	25.2
5. Net value added by food processing manufactures for Canadian market, as % of current \$ expenditure on food.....	21.7	24.4	—	—
6. Value of imports of food as % of total current expenditure on food product.....	18.0	13.3	—	—
7. Estimated farm income from providing food to the domestic market as % of total current expenditure on food.....	—	53.3	—	—

^a 1952-55.SOURCE: Lines (1), (2), (3) and (4)—computed from *National Accounts* and national income data made available by D.B.S.

Line (5)—See Appendix C to this study.

Line (6)—See Appendix C to the study of Canada's imports, prepared for the Commission.

Line (7)—see Appendix C to this study.

Table 29

CANADA: FAMILY BUDGET DATA—A CLASSIFICATION OF
EXPENDITURES ON FOOD

	Expenditure per person per week in cents			1953 as % of 1937-38	1953 as % of 1947-48	% of total 1937-38	% of total 1953
	1937-38	1947-48	1953				
Fruits.....	14	52.4	54	385.7	103.0	7.6	8.6
Eggs.....	10	25.5	29	290.0	113.7	5.5	4.6
Vegetables.....	17	50.5	57	335.2	112.9	9.3	9.1
Meats (incl. poultry and fish).....	38	157.6	193	507.8	122.5	20.8	30.8
Dairy products.....	45	89.5	108	240.0	120.6	24.6	17.2
Cereals and bakery products...	31	59.0	78	251.6	132.2	16.9	12.5
Sugar	28	68.3	107	382.1	156.6	15.3	17.1
Other							
Total.....	183	502.8	626 ^a	342.1	124.5	100.0	100.0

^a Excluding "food taken out" and "board out of town".SOURCE: Computed from the following: D.B.S., *Family Income and Expenditure in Canada, 1937-1938*;D.B.S., Ref. Paper #42: *Canadian Non-Farm Family Expenditure, 1947-1948*;D.B.S., Ref. Paper #64: *City Family Expenditure*.

tastes toward expenditures on meats and fruits, and of low income elasticities or shifts in tastes against cereals.

(b) *Comparison of Trends: Expenditure on Food, the Volume of Food Consumed and Farm Incomes*

In addition to the data on personal expenditure, there are other indicators of trends in food consumption, including data on the volume of food consumed, cross-section analyses of family⁵ budgets and observations on farm income. The trends, as shown by these other indicators, in some cases appear to conflict with those indicated by the expenditure data. For some time, agricultural economists have been telling us about the relatively low income elasticity of the demand for food; that is, of the small percentage increase in the consumption of food per 1% increase in income levels⁶. This is a central part in most explanations and predictions of a relative decline in agriculture. The evidence is quite convincing that farm incomes in the aggregate have not increased as rapidly as either personal disposable income or total expenditure on food, as indicated in the national accounts. We will see in a moment that this disparity is comparatively easy to explain.

The study of Canadian agriculture⁷ prepared for the Commission gathers together and analyzes data on the volume of food consumed in Canada, between 1935 and 1955. A summary of this data is included in Table 30 of this study. When the consumption of all food is measured in pounds the indication is that the volume of food consumption per capita has increased by no more than 7% between 1935-39 and 1953-55⁸. This contrasts with an increase of almost 40% in the per capita expenditure on food, measured in constant (1949) dollars, during the same period. As the comparison is between periods of depression and full employment, the expenditure data tend to overstate the long-run increase in per capita expenditure on food.

⁵ See references to analyses of family budgets set out in the bibliography to this study.

⁶ See particularly: T. W. Schultz, *The Economic Organization of Agriculture*, New York, McGraw-Hill, 1953; T. W. Schultz, *Production and Welfare of Agriculture*, New York, MacMillan, 1949; J. D. Black, "Agriculture in the Nation's Economy", *American Economic Review*, March 1956.

⁷ W. M. Drummond and W. Mackenzie, *Progress and Prospects of Canadian Agriculture*, Ottawa, 1957.

⁸ The basic material for the study of the volume of consumption of various food products is the data on "Apparent Per Capita Disappearance of Food in Canada" prepared by D.B.S. for all years since 1935. These data are reproduced for most years in various issues of the *Canada Yearbook*. The Commission staff recalculated these data to put them on a basis more comparable with U.S. data available since 1909. On the basis of this recalculation the authors of the agriculture study prepared for the Commission report that the average per capita weight of food consumed in Canada between 1935 and 1939 was approximately 1,400 pounds, and in 1954, 1,500 pounds, an increase of about 7%. The published data of the Bureau indicate an increase in the per capita weight of food consumed of 4.1% between 1935-39 and 1951-53.

The data on the volume of food consumed in 1935-39 compared with recent years also reveal some interesting changes in the composition of the Canadian food consumption. (See Table 30.) Very sharp decreases have taken place in the per capita consumption of food in the forms of cereals and potatoes. At the other extreme, rapid increases have taken place in the volume of per capita consumption of fruits, green vegetables, red meats, poultry and eggs. In most regards, this shift in the composition of food consumption is similar to that indicated by the family budget data.

Table 30

TRENDS AND ESTIMATES OF PER CAPITA VOLUME OF CONSUMPTION OF FOOD

(1935-39 - 1951-55 with estimates for 1965 and 1980)

	1935-39 average	1951-55 average	1965	1980
	lbs./ capita	lbs./ capita % 1935-39	lbs./ capita % 1935-39	lbs./ capita % 1935-39
Cereals.....	202	166 82	152 75	128 63
Potatoes.....	200	145 72	130 65	110 55
Other starches.....	106	108 102	108 102	105 99
Fruits.....	113	169 149	177 156	223 197
Vegetables.....	127	136 107	138 108	145 114
Oils and fats.....	16	29 179	32 198	35 216
Dairy products.....	449	448 100	438 98	418 93
Red meats.....	117	140 119	147 125	169 144
Poultry meats.....	21	28 130	29 133	33 154
Eggs.....	31	35 114	38 124	45 147

NOTE: Consumption figures are in retail weight except for fruits and vegetables given in fresh equivalent and meats expressed as dressed carcass weight.

SOURCE: D.B.S. data on per capita consumption and Commission estimates on future trends; see W. M. Drummond and Wm. Mackenzie: *Progress and Prospects for Canadian Agriculture*, Chap. 2, Ottawa, 1957. Data and estimates, *ibid*.

(c) *Explanations of Trends in Food Expenditure*

Three factors appear to be important when explaining the difference between the growth in expenditures on food and the growth in the volume of food consumption. These are, the growth in commercial processing of food, the increase in the proportion of the food dollar used up in providing distribution facilities and services, and the shift toward more expensive forms of food consumption.

It is common knowledge that there has been a substantial increase in food processing activities; e.g. frozen foods, cake mixes and commercially canned products have replaced much of the home preparation of food. It is difficult to make a precise estimate of the growth of the manufacturing of food. We have compared the net value added by food manufacturing activities in Canada (less an estimate of the proportion of such activities devoted to the export market), with total food expenditures. This comparison has been summarized in Table 28; it shows that the net value of food processing for the domestic market has increased from about 21.7% of expenditure on food between 1926 and 1929 to about 24.4% of sales of food between 1950 and 1953.

Apparently there has also been a trend of increase in the proportion of the food expenditures used up in providing distribution facilities and services. In the first place, with the relative decline of the agricultural and other rural populations, the consumption of home-grown food has decreased relatively. For example, in Canada's national accounts this shows up in a relative decline of farm food income in kind as a proportion of total expenditure on food. A much larger proportion of our food must go through commercial distribution channels now. Even with no relative change in transportation costs and wholesale and retail margins, the aggregate distribution costs must have grown relative to total expenditure on food. In the second place, due to increased commercial processing, retail and wholesale channels are dealing with relatively more expensive forms of food. Again, even if percentage margins had not changed, the growth in food processing implies a corresponding growth in the proportion of the food expenditure devoted to providing distributional facilities and services. Third, the evidence seems to indicate that there has been relatively little change in the average percentage margins for wholesaling and retailing activities, though many changes of individual margins have taken place⁹.

We digress briefly into an implication of the above developments. Farm groups commonly express concern that they are getting a progressively smaller proportion of the food dollar. Often this is thought to be a by-product of the relatively strong bargaining position of such food processors as meat packers, transportation companies, and large wholesale and retail distributors, and the weak bargaining position of the farmer. It is quite clear that the farmer is obtaining a smaller share of the food dollar. We have attempted to estimate the Canadian farm income from supplying food to the domestic market, comparing this with expenditure on food. A summary comparison has been included in Table 28, showing that the farmer gets a little more than 50% of the food dollar at the present time. While weak bargaining positions may be some part of the explanation of the division of the food dollar between farmers and other groups, our remarks above suggest that there are many powerful factors other than a deterioration in farm bargaining positions which explain the relative decline in the farm share of the food dollar.

Returning to the main argument regarding trends in food expenditure, the third factor which bears on the differences between the growth in expenditure and the growth in food consumption is the shift toward more expensive forms of food consumption. It has already been seen that the consumption of fruits and meats has increased substantially while the consumption of cereals and potatoes has declined. This is a change toward more expensive forms of food consumption. Further, within particular classes of food consumption, there has been some substitution of more expensive for less

⁹ See: The Bank of Montreal, *The Service Industries*, Ottawa, 1957; W. M. Drummond and W. Mackenzie, *op. cit.*, Chap. 12.

expensive forms. For example, the family budget data suggest that per capita expenditures (measured in current dollars) on meat, poultry and fish products have increased by more than 400% between 1937-38 and 1953. The data from the agricultural study indicate a volume of consumption per capita which is 19% higher. If there had been no improvement in the average quality of consumption, this would imply a 320% increase in the price of meat, much more than is indicated by price data. Thus, it may be concluded that more expensive forms of meat have become relatively more important in the volume of meat consumption.

It has sometimes been suggested that the difference between observations on trends in food expenditure and in the position of Canadian agriculture is partly to be explained by an increasing proportion of food expenditure being devoted to imported items. Imports of food have been estimated and compared with personal expenditure on food; the data in Table 28 show that imports of food (value f.o.b. point of origin) are a smaller proportion of total expenditure on food in Canada now (approximately 13.3%) than they were between 1926 and 1929 (18.0%). Of course, for some items, like citrus fruit, imports have increased more rapidly than expenditure on food.

(d) Factors Underlying Trends in Food Consumption

The factors which we have examined go some way toward explaining superficially the difference between observations on food expenditure and food consumption; while we cannot hope to provide definitive answers it is useful to ask about the social changes which underlie the trends. These appear to be:

1. the relative decline in importance of heavy manual work. This reduces the needs for the staple energy-producing elements in the diet;

2. the fairly vigorous efforts of the nutritionists, to keep calorific intake within reasonable bounds, while emphasizing the role of the protective foods. This tends to push us away from cereals, potatoes, and fat meat, toward fresh or frozen fruit and vegetables, and lean meat. The pediatrician on the one hand and the heart specialist on the other have encouraged these developments. These changes in diet are to a considerable extent a shift from less expensive to more expensive items, and could only have taken place in circumstances of high and increasing incomes.

Comparisons with the United States indicate that Canadians have not yet gone as far in switching from the old staples of food consumption to these other products; similarly we have gone somewhat less far in using commercial food-preparation activities;

3. the increase in the proportion of married women who work outside the home together with increased scarcity of domestic

household help, has put marked new premiums on reducing the home preparation of food products.

(e) *Forecast of Expenditure on Food*

This forecast of the demand for food is confined to aggregate expenditure and to certain broad characteristics of food consumption, such as the main kinds, degree of commercial processing and distribution services. The object of the forecast is to provide some underpinning to and reconciliation with a number of more specific studies of the demand for food. For example, a much more detailed study of the demand for food has been made in the study of Canadian agriculture prepared for the Commission, some results of which have been reproduced here in Table 30. The agricultural forecast and this one should be consistent as regards domestically-produced foods.

Our judgment is that the expenditure on food, including restaurant meals, will decline slightly as a proportion of total personal expenditure, from the present (1953-55) levels of 27% to 24% or 25% by 1980 (measured in constant 1949 dollars). The implied levels of aggregate and per capita expenditure on food are set out in Table 31. The forecast implies approximately a 65% increase in per capita expenditure on food during the next 25 years. All forecasts are in terms of constant dollars.

What is the basis of these forecasts? Essentially it is an extrapolation of Canadian experience during the last three decades. In constant dollars, the data underlying the national accounts indicate a decrease in constant dollar expenditure on food from an average of 29.9% of total personal expenditure between 1926-29 to an average of 27% between 1952 and 1955. The ratio decreases at a rate of about 0.5% per year compounded. Our guess is that the rate of decline will be approximately the same in the future, not entirely because future circumstances will be wholly unchanged from the past, but because those that are expected to be different have offsetting effects. Further, we assume that:

1. the transfer of food preparation activities from the home to the manufacturing and other commercial channels is by no means complete; e.g. the proportion of married women in the labour force is expected to increase. Canadians have not yet gone as far as Americans in using frozen foods, cake mixes and other commercially prepared foods;
2. during the last quarter century the average age of the population increased and then declined, but was higher at the end than the beginning of the period. Somewhat related to this, average family size decreased and then increased, but was smaller at the end than the beginning of the period.' These changes tend to decrease the percentage of total expenditure on food. The population forecast implies relatively little net change in the family size and age structure of the population

- during the forecast period. Thus, we might expect a slightly higher rate of growth of expenditure on food in the future than in the past quarter century;
3. the shift of population to larger urban centres is expected to continue, this factor tending to result in a growth in expenditure on food in much the same way as in the past;
 4. the shift toward more expensive forms of food consumption is expected to continue.

We expect the per capita expenditure on food to increase by 65%; what about the distribution of this expenditure among various items? Judging by past experience, it is expected that higher than average increases will take place in expenditure on fresh and frozen fruit and fresh and frozen vegetables and meat, and lower than average for cereals, potatoes, eggs, animal fats, beverages, sugar and dried fruits. It now appears that physical work will continue to become less important, and thus also will the need for energy-producing foods. We expect the views of nutritionists to be unfavourable to animal fats and sugar. Better nutrition usually involves more expensive foods, and thus the rise in income will permit widespread nutritional improvements.

What does this expenditure pattern imply for the demand for farm output? In so far as farm output and farm income depend on supplying food to the domestic market, the consumer expenditure forecast implies a fairly rapid increase in farm output and income though somewhat less rapid than the increase in G.N.P. Farm income from supplying food to the domestic market appears to be about 50% of the expenditure on food (including restaurant meals). The proportion of the consumer's food dollar devoted to the manufacture and distribution of food and the provision of restaurant services will probably increase, thus tending to reduce the proportion devoted to demanding farm output. No very substantial change is expected in the import content of Canadian expenditure on food. Thus, between 1955 and 1980, a 180% increase in G.N.P., is expected to be accompanied by a similar increase in consumer expenditure, and about a 150% increase in expenditure on food. The increase in farm income from supplying food to the domestic market would probably be of the order of 125% to 135%. Of course, the over-all change in farm income is also dependent on export prospects.

IV. Tobacco and Alcoholic Beverages

(a) Alcoholic Beverages

The available data on the expenditure on and consumption of alcoholic beverages in Canada suggest quite clearly that the per capita consumption of such beverages is much larger now than it was (say) 25 years ago. Judging by Canada's national accounts, Canadians are spending approximately 5% of their total personal expenditure on alcoholic beverages at the present time, compared with a little less than 3% of their personal expenditure in

Table 31

PROSPECTS FOR EXPENDITURE ON FOOD

Item	Unit	1955	1965	1970	1975	1980
Total personal expenditure.....	millions of 1949 \$	14,257	21,300	26,900	33,400	41,600
Expenditure on food as % of total personal expenditure.....	%	26.7	26.0	25.5	25.0	24.5
Aggregate expenditure on food.....	millions of 1949 \$	3,806	5,540	6,860	8,350	10,190
Population.....	millions	15.61	19.52	21.64	23.99	26.65
Per capita expenditure on food.....	1949 \$	244	284	317	348	382
Index of aggregate expenditure on food.....	1955 = 100	100	146	180	219	268
Index of per capita expenditure on food.....	1955 = 100	100	116	130	143	157

NOTE: All calculations based on assumption of 75,000 net annual immigration, and middle forecast of G.N.P.

the late 1920's. (See Table 32.) Data on the per capita domestic disappearance of alcoholic beverages also indicate a substantial increase in the per capita consumption. Selected data have been placed in Table 32; these show that per capita consumption of beer has more than doubled during the last 25 years, of spirits has increased by a little more than 60%, while the per capita consumption of wine appears to be about the same.

Time has not been available (nor does it appear particularly useful within the compass of this study) to carry out a careful analysis of the trends in Canadian consumption of alcoholic beverages. However, a few observations on the data may be useful.

First, the recorded data on expenditure and consumption of alcoholic beverages in the late 1920's probably understate the real consumption which was taking place and thus tend to overstate the rate of increase in expenditure and consumption of such commodities. The recorded consumption levels in the late 1920's were influenced by the temperance legislation. In Ontario, for example, during the temperance period it was legal to brew beer in the home for home consumption; such brewing would not enter into the recorded statistics of beer consumption or of expenditure on such beverages. Similarly, it is well known that there was very much more home and illicit distilling of beverages in the late 1920's than exists at present.

Second, the history of social behaviour in Canada suggests that the community now looks more favourably on the consumption of alcoholic beverages than it did three decades ago. In any case, the number and variety of outlets for selling alcoholic beverages has increased more or less steadily since the late 1920's. Third, while data do not permit accurate measurements, there are a number of indications that a substantial proportion of the alcoholic beverages consumed is charged against business expense. In the revision of the national accounts currently taking place, the personal expenditure on alcoholic beverages has been tentatively set at 92.5% of the total expenditure on such beverages, assuming that 7.5% is chargeable against business accounts. This probably understates the appropriate charging to business accounts. For example, the surveys of family expenditure have repeatedly indicated that smaller proportions of family budgets are devoted to alcoholic beverages than are indicated by the national accounts. Of course, there are strong reasons for believing that the proportions indicated by the family budget data tend to underestimate the family expenditure on alcoholic beverages.

Fourth, the retail prices of alcoholic beverages bear about the same relationship to the prices of all consumer goods and services now as they did in the late 1920's; thus the increase in expenditure on such beverages has not been attributable to a long-run change in a structure of prices. Finally, the total consumption of alcoholic beverages in Canada is still well

below the American levels, on a per capita basis. Dewhurst¹⁰ indicates that American per capita consumption of beer is about 17 gallons per annum now (compared with about 14 in Canada); that the American per capita consumption of hard liquor is about nine-tenths of a gallon per person per annum (compared with about .60 imperial proof gallons of spirits in Canada); and that the American consumption of wine is about nine-tenths of a gallon per annum (compared with Canadian consumption of about .40 gallons per year). There are indications that the American levels are continuing to increase; Dewhurst has suggested that the expenditure on alcoholic beverages in the United States would increase by about 11% between 1950 and 1960 compared with the 7% increase for all consumption items.

Prospects

Let us turn now to the prospects for expenditure on alcoholic beverages in Canada. It is our judgment that the proportion of Canadian personal expenditure devoted to alcoholic beverages will not change very much from the current position, in which about 5% of total personal expenditures is devoted to such commodities. This means that the past trend of increase in the proportion of personal expenditure devoted to alcoholic beverages is not expected to continue. This judgment has been based on the following considerations.

1. It has been assumed that the price of alcoholic beverages relative to the general level of prices of consumer goods and services will be unchanged from the present levels.
2. It appears that the recorded trends in the proportion of personal expenditure devoted to alcoholic beverages in the past tend to overstate the rate of increase of consumption because of the effect of temperance legislation and so on. One should expect a somewhat less rapid rate of increase in the recorded expenditures on alcoholic beverages in the future.
3. The proportion of the population — or more correctly, of the adult population — which now consumes alcoholic beverages appears to have increased a good deal during the last 30 years; as the proportion is now fairly large it seems unlikely that the rate of increase could continue in the future at the same pace as during the past three decades.
4. Even if the current proportion of the personal expenditure devoted to alcoholic beverages were to be unchanged, this implies a very considerable increase in the volume of consumption of alcoholic beverages. It means, for example, approximately a 70% increase in per capita expenditure on alcoholic beverages, measured in constant dollars. This would probably

¹⁰ J. F. Dewhurst and associates, *America's Needs and Resources*, New York, The Twentieth Century Fund, 1955.

mean a slightly smaller rate of increase in the volumes of consumption of alcohol because of some shifting from less expensive to more expensive forms of consumption. Nevertheless the rate of increase may be viewed by some people with considerable alarm.

As a rough check on the projections, we have considered the possible volumes of consumption of various forms of alcoholic beverages per drinker in the future and at the present time, assuming that the proportion of the population which abstains, continues to decrease a little. On this basis it appears that our expenditure functions imply something like a 35% to 40% increase in the per drinker consumption of alcoholic beverages.

(b) Tobacco Products

At present, Canadians spend about 3% of their total personal expenditure on tobacco products; the per capita consumption of tobacco products is much larger in Canada now than it was three decades ago. This section is concerned with trends in the expenditure and consumption of tobacco products in Canada and with the prospects for Canadian consumption of tobacco products.

Annual tobacco consumption in Canada is now (1955) about 5.5 pounds per capita in various forms, compared with less than 3.5 pounds in the late 1920's. Consumption per adult is now about nine pounds a year compared with six pounds in the late 1920's. Thus, the long-run growth in the volume of per capita consumption of tobacco products has been more rapid than the growth in the per capita net income. However, during the last decade, the growth in the consumption of tobacco products has been a good deal slower than the average over the past three decades, and somewhat slower than the growth in real income.

In Canada, a marked shift has taken place in the forms of tobacco consumption, away from cut and plug tobacco toward manufactured cigarettes. Given the tax and price structure for tobacco products in Canada, this is a substitution of a more expensive for a less expensive form of consumption. Thus, on a long-run basis, the increase in expenditure on tobacco products has been much more rapid than the increase in the total volume of consumption of tobacco products. Even in recent years (1946-53), whereas the volume of consumption of tobacco products per adult increased at a rate of 0.50% per year and the volume of consumption per capita was approximately constant, the per capita expenditure (measured in constant 1949 dollars) increased slightly more than 1% per annum.

Changes in income and the prices of tobacco products take us some distance in explaining the trends in consumption. With the growth in real income, some substitution of more expensive for less expensive forms of tobacco consumption has taken place and probably will continue to do so.

Fluctuations in expenditure on tobacco products have roughly corresponded to fluctuations in income. Marked changes in the differential between Canadian and United States prices for tobacco products have clearly influenced the consumption of Canadian tobacco products.

Quite apart from changes in income, other important factors have affected the level and forms of consumption of tobacco products. In Canada, as in most other countries of the Western world, there has been a very great increase in the consumption of cigarettes; this is only partly a substitution of cigarette consumption for other forms of tobacco. The most important factor underlying the growth in cigarette consumption is the widespread increase in smoking by women. Another factor is the relative shift of the population to urban centres from rural areas, and to occupations carried on in more or less confined quarters.

A comparison of the consumption of tobacco products in Canada and the United States reveals some substantial differences. The per capita consumption of tobacco products in Canada is considerably smaller than it is in the United States; however, the Canadian levels have gradually been approaching those of her neighbours. Second, a much smaller proportion of the consumption of tobacco in Canada is in the form of manufactured cigarettes. On a per capita basis American consumption of manufactured cigarettes is now about 2,400 per annum whereas Canadian consumption in this form was approximately 1,550 per annum in 1955. However, the over-all differences in the smoking of cigarettes are smaller in the two countries than these figures would indicate; sales of fine cut tobacco and the consumption of roll-your-own cigarettes account for a substantial part of the difference. When roll-your-own cigarettes are added to manufactured cigarettes, Canadian levels of cigarette consumption are approximately 2,100.

Differences in the prices of tobacco products partly explain the differences in consumption habits. Primarily because of higher levels of commodity taxation imposed on tobacco products in Canada, the prices of tobacco products are very much higher in Canada than in the United States, while Canadian per capita incomes are a good deal smaller than in the United States. The higher prices for tobacco products and the lower incomes in Canada tend both to produce lower levels of consumption of tobacco products in Canada and a greater proportion of that consumption in the cheaper forms of tobacco products. It should be noted that the differential in prices of tobacco products between Canada and the United States cannot be allowed to become too large, because of the relative ease of Canadian consumption of United States tobacco products without paying the Canadian commodity taxation.

Prospects for the consumption of tobacco products in Canada

While it is our expectation that the per capita Canadian consumption of tobacco products will increase, simple extrapolation of the past trends

in the proportion of consumer expenditure would probably be quite unsatisfactory. The historical data on the consumption of tobacco products have been set out in Table 33 and the detailed forecasting methods are in Appendix C. By setting down our judgments about the prospects for the consumption of tobacco products, it will be possible both to indicate why a simple extrapolation is not considered satisfactory and to derive a set of estimates of expenditure on tobacco products.

Judging by the experience in quite a number of countries, the proportion of the population who use tobacco products tends eventually to reach some upper limit and the consumption per user also seems to reach a limit. Canada has been going through a period in which a proportion of the population who use tobacco products has increased a great deal and some increase has taken place in the consumption per user. While we have not yet reached the upper limits in either respect, it does appear that before too many more years the rate of increase in tobacco consumption would be less rapid than the average during the period from 1922 to 1955. Indeed, in the postwar years the rate of increase has already been somewhat less rapid than the average throughout the 1922 to 1955 period.

A number of rather specific judgments or assumptions have been made with respect to the prospective use of tobacco products. These are:

1. The volume of consumption of tobacco products per adult is expected to increase for some time at somewhere around 1% per annum between 1955 and 1965, and 0.5% per annum between 1965 and 1980. The average rate of increase in consumption per adult during the last ten years, 1946-55, has been slightly more than 0.5%. Canadian consumption is still well below that in the United States and may be reasonably expected to approach current American levels;
2. For some time the proportion of the Canadian consumption of tobacco in the form of manufactured cigarettes has been increasing; it is our judgment that this proportion will continue to increase, approximating to 85% of the total consumption by 1980. This is approximately the current division of the consumption of tobacco products among manufactured cigarettes and other forms of tobacco in the United States. For some time the Canadian consumption has been approaching the American pattern, but with a lag which is largely to be explained by the higher prices of tobacco products in Canada, particularly manufactured cigarettes, the lower levels of income in Canada and the slightly larger proportion of rural population in Canada¹¹;
3. The consumption of raw leaf tobacco is expected to decrease, and of cigars, to increase slowly.

These judgments together with the population forecast imply certain levels of per capita and aggregate consumption of tobacco products as a

¹¹ These judgments imply that the claims of ill effects of cigarette smoking on health will have little influence on consumption of tobacco products.

whole and a certain distribution of that consumption in the future. In turn, the expected volumes can be priced up in 1949 prices, yielding estimates of aggregate and per capita expenditure of tobacco products. The result of the calculations are set out briefly in Table 33. This shows that the per capita consumption of manufactured cigarettes is expected to increase from about 1,575 in 1955 to about 2,300; the per capita consumption of other manufactured tobacco products excluding cigars is expected to fall to less than one pound per person; and the per capita consumption of cigars is expected to increase to about 21, all by 1980. In the aggregate these estimates suggest a little less than a tripling in the Canadian consumption of manufactured cigarettes, a decline in Canadian consumption of cut tobacco and plug and snuff, and roughly a doubling in the consumption of cigars. As regards expenditure, the expectation is that the per capita consumption of tobacco products will account for a smaller proportion of total personal expenditure, the fraction being about 3.5% in 1965 and about 2.75% in 1980 (all based on constant (1949) dollar data).

These rough estimates of the prospects of Canadian consumption of tobacco products have important implications for the manufacture of tobacco products and for the growers of leaf in Canada. The prospect for Canadian consumption of Canadian leaf depend primarily on the weight of tobacco consumed rather than on the forms of consumption. As comparatively modest increases in the per capita consumption of tobacco products are expected, the growth in the Canadian market for leaf tobacco depends primarily on the population growth in Canada. Our rough estimates suggest that the Canadian market for leaf tobacco should approximately double in the next 25 years. Because of the predominance of the consumption of manufactured cigarettes, the prospects seem brighter for growers of flue-cured than for growers of burley tobacco. On the other hand, because of the shift into the proportion of consumption towards manufactured cigarettes, the prospects for the Canadian market for manufactured tobacco products are somewhat better than the Canadian market for raw leaf.

V. Clothing and Personal Furnishings

(a) Summary of Conclusions

This section is concerned with the trends and future prospects for Canadian expenditure on clothing and personal furnishings. The group includes clothing, footwear, piece goods and notions, jewellery and watches, and purchased services for the maintenance of personal furnishings. Our judgment is that the proportion of total personal expenditure devoted to these purposes will decrease slightly, from a level of 12.4% between 1952 and 1955 to approximately 11.2% by 1980, the percentages calculated on the basis of constant (1949) dollars. In other words, this type of expenditure is expected to increase somewhat less quickly than personal disposable income and aggregate consumer expenditure. A forecast on this basis is set out in Table 34.

Table 32

CANADA: EXPENDITURE ON AND CONSUMPTION OF ALCOHOLIC BEVERAGES

Year	Expenditure per capita on alcoholic beverages		% of total personal expenditure on alcoholic beverages		Apparent per capita consumption per year			Canada estimated expenditure per adult in 1949 \$
	Current \$	Constant (1949) \$	Current \$	Constant (1949) \$	Spirits (gals.)	Beer (gals.)	Wine (gals.)	
1928.....	16.84	24.59	3.77	4.12	.33	5.57	.31	42.68
1929.....	17.74	26.97	3.87	4.42	.37	6.87	.41	46.72
1935.....	9.42	19.78	3.15	3.83	—	—	—	32.92
1936.....	10.50	21.08	3.33	3.91	.24	5.21	.28	34.82
1937.....	12.16	23.16	3.56	4.12	.27	5.45	.29	38.03
1938.....	13.86	22.72	4.05	4.08	.31	6.07	.32	37.10
1939.....	14.48	23.10	4.18	4.13	.30	5.62	.31	37.46
1945.....	40.77	44.90	7.22	5.96	—	—	—	71.03
1946.....	42.02	44.18	6.47	5.27	.48	10.58	.37	69.79
1947.....	44.91	46.01	6.11	5.40	.58	13.90	.50	72.81
1948.....	29.49	47.40	6.02	5.73	.57	12.92	.41	75.26
1949.....	47.74	47.80	5.86	5.67	.54	13.17	.35	76.45
1950.....	49.02	48.01	5.59	5.65	.51	13.23	.38	76.98
1951.....	52.24	47.50	5.51	5.75	.57	12.70	.37	76.49
1952.....	56.90	52.30	5.87	6.16	.56	13.07	.36	84.68
1953.....	58.81	53.30	5.75	6.09	—	—	—	86.79
1954.....	57.04	51.60	5.48	5.87	—	—	—	84.43
1955.....	57.76	52.20	5.35	5.69	—	—	—	86.57

SOURCE: Expenditure data - The published *National Accounts* for Canada, plus background information made available by D. B. S. The volume of consumption has been calculated from data available in various issues of *The Canada Year Book*.

Table 33

CANADA: SELECTED DATA AND PROSPECTS FOR CONSUMPTION OF TOBACCO PRODUCTS

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Per capita consumption of manufactured cigarettes.	Per capita consumption of "other tobacco" ^a	Per capita consumption of "all tobacco" ^a	Aggregate consumption of manufactured cigarettes.	Aggregate consumption of all tobacco	Value of expenditure on tobacco products in current \$	Value of expenditure on tobacco products in constant (1949) \$	% of total personal expenditure on tobacco products	Constant (1949) \$ %
	no.	lbs.	lbs.	billions	million lbs.	\$ millions	\$ millions	Current \$ %	Constant (1949) \$ %
<i>A. Historical data</i>									
1926.....	341	2.30	3.15	3.23	29.76	89.5	12.9	2.36	2.48
1929.....	507	2.20	3.47	5.08	34.76	107.4	15.7	2.17	2.48
1937.....	602	2.27	3.80	6.70	42.01	109.8	18.5	2.91	2.97
1947.....	1,204	2.28	5.28	15.14	66.41	347.1	37.2	3.78	3.46
1949.....	1,252	2.24	5.21	16.84	70.80	401.9	402.0	3.66	3.66
1953.....	1,421	1.95	5.50	21.06	81.20	453.1	442.0	3.00	3.56
1954.....	1,455	1.77	5.41	22.10	81.90	460.7 ^a	457.0 ^a	2.91	3.42
1955.....	1,574	1.66	5.59	24.60	88.60	463.0 ^a	459.0 ^a	2.77 ^a	3.21 ^a
<i>B. Prospects</i>									
1965.....	2,075	0.90	6.09	39.80	116.6	710.0 ^b	750.0	2.82 ^b	3.52
1980.....	2,330	0.50	6.63	62.20	176.6	1,075.0 ^b	1,140.0	2.19 ^b	2.74

^a This appears to be an underestimation.^b Based on 1955 \$.

SOURCE: See Appendix C.

While it is more difficult to speculate about the distribution of this expenditure among various items and types of material, some such forecasts are necessary for examining the industrial and import prospects. Our view is that the synthetic materials will continue to grow relatively in importance as a substitute for wool in clothing and for leather in footwear. Per capita consumption of cotton textiles is expected to decrease slightly. Items of personal care and adornment, other than clothing and footwear, are expected to become somewhat larger proportions of the total expenditure on clothing and personal furnishings.

(b) Trends in Consumption

The forecasts of Canadian consumption of clothing and personal furnishings are based on analyses of Canadian trends (in which the brief to the Commission by the Primary Textiles Institute and the study of Canada's primary textile industry carried out for the Commission, have been very helpful), Canadian family budget data, comparisons of Canadian and other experience, and a fairly large body of family data.

Consider first the Canadian data on personal expenditure on clothing and personal furnishings, as measured in the national accounts. These data (see Tables 9 and 10) showed that the proportion of Canadian personal expenditure devoted to clothing and personal furnishings has been somewhat smaller in recent years (1952 to 1955) than it was between 1926 and 1929. In terms of current dollars the proportion has declined from 14.8% to 11.5%; in terms of constant (1949) dollars, the proportion has declined from 14% to 12.4%. These data may be looked at another way; comparing 1926 to 1929 and 1952 to 1955, per capita disposable income in constant (1949) dollars has increased by 46% and per capita personal expenditure has increased by approximately 45%. However, per capita expenditure on clothing and personal furnishings has increased by no more than 30%.

Using the late 1920's and recent years as indicators of long-run trends, expenditure data show that a somewhat more rapid increase has taken place in total personal expenditure than in expenditure on clothing and personal furnishings. These data also show quite clearly the abnormally high rate of expenditure on clothing and personal furnishings during the early postwar years. A statistical relationship of per capita expenditure on clothing and personal furnishings and total per capita personal expenditure produces a regression line with an estimated slope of .107 which indicates that an increase in total per capita expenditure of \$1 has been associated with an increase in expenditure on clothing, etc., of 10.7¢ in the past ¹².

¹² In its brief, the Primary Textiles Institute suggests that the rate of increase of expenditure on clothing will be the same as the aggregate personal disposable income. Our comments suggest that in the past the rate of increase in expenditure and clothing has been less rapid than the total personal expenditure.

Some slight additional supporting evidences regarding trends in personal expenditure on clothing are provided by Canadian family budget data. Data from the 1937-38, 1947-48, and 1953 surveys have been adjusted to a basis more comparable with the national accounting concepts¹³. These data show that the average expenditure on clothing as a percentage of total expenditure has been: 1937-38, 10.8%; 1947-48, 12.1%; 1953, 10.1%.

Other data on the per capita flows of clothing and personal furnishings to households are set out in Table 35. These data confirm the observations based on the information on expenditure. For example, the per capita Canadian consumption of fabrics of all types has increased by less than 40% between the late 1920's and the present time. Per capita consumption of leather footwear has increased by approximately 25%. The data also show the great disparity in the rate of growth among various types of products. Per capita consumption of wool fabrics is now smaller than it was three decades ago. A very large absolute decrease has taken place in the consumption of silk and a very large increase in the consumption of artificial fibres.

International comparisons, particularly with the United States, provide some additional evidence on consumer expenditure on clothing and personal furnishings. The Kravis study compares the distribution of consumer expenditure among a number of countries and over time¹⁴. As regards the proportion of consumer expenditure on clothing and personal adornment, this study concluded: "Neither the sector as a whole nor any of the three categories (clothing and footwear, personal effects, personal care) was correlated with interspatial differences in real per capita income. In the United States, however, there has been a substantial decline in the ratio for clothing and accessories, from 19.3 per cent in 1869-78 to 10.5 per cent in 1944-53. On the other hand, in Sweden . . . there is little evidence of a secular decline in the clothing ratio."¹⁵

The Dewhurst study contains a more detailed analysis of American expenditures on clothing and personal care¹⁶. This study indicates that the long-run trend in the United States has been a slight decline in the proportion of consumer expenditure devoted to clothing and an increase in the proportion of expenditure devoted to personal care, but with the two groups combined having declined. This change has taken place in spite of a number

¹³ D.B.S.: *Family Income and Expenditure in Canada, 1937-38*, (Ottawa, 1941); D.B.S.: *Reference Paper No. 42: Canadian Non-Farm Family Expenditure, 1947-48*, (Ottawa, 1953); D.B.S.: *Canadian Non-Farm Family Expenditure, 1953*: (Ottawa, 1956). In each case the estimated payments for personal taxes and certain other family expenditures which are not included in personal expenditure in the national accounting sense, have been deducted from the family expenditure total.

¹⁴ Irving B. Kravis, *International and Intertemporal Comparisons of the Structure of Consumption*, National Bureau of Economic Research, 1955.

¹⁵ *Ibid.*

¹⁶ Dewhurst, *op. cit.*

of strong forces tending to increase the expenditure on clothing and personal care, including the increased proportion of the women in the labour force, the shift of population from farm to city, the substitution of factory-made clothing for home-made clothing and the change in the income distribution. Decline in family size is an objective factor which works in the opposite direction. On balance these objective forces have not been sufficient to increase the proportion of family budgets devoted to clothing and personal care. (It should be noted that the Dewhurst study expects the proportion of consumer expenditure devoted to clothing in the U.S. to be somewhat larger by 1960 than it was in 1950 and 1953.)

Most family budget studies have concluded that clothing expenditures increase more than proportionately to income as income increases. In the Allen and Bowley study, 23 family budget surveys were analyzed for different times, groups, and countries¹⁷. In all but four of these, the income (or rather the total expenditure) elasticity of demand for clothing (*i.e.* the rate of percentage increase in expenditure on clothing for each 1% increase in total expenditure) lay between 1.0 and 1.6, and only two estimates were less than 1.0. A recently published study (of family budgets) by H. Gregg Lewis and Paul H. Douglas concluded that the income elasticity of the demand for clothing was between 1.1 and 1.2¹⁸. Studies of income sensitivity of expenditure by Paradiso and by Paradiso and Winston placed most items of clothing in the sensitive class¹⁹.

If the estimates of the income elasticity of demand for clothing derived from this variety of family budgets were reliable indicators of long-run trends, it should be expected that the clothing expenditure has become and will be an increasingly large proportion of total consumer outlay over time. While there are some examples of such a change (Sweden, 1953, compared with 1928-29), there is little evidence of any strong tendency in this direction in the past, certainly not of the magnitude which would be expected on the basis of the family budget estimates. Most of the historic evidence provided by time series and by the average distribution expenditures in successive family budget studies indicates that the average proportion spent on clothing has been approximately constant²⁰. In fact, North American data indicate a slow decline in this average propensity.

¹⁷ R. G. D. Allen and A. L. Bowley, *Family Expenditure*, London, P. S. King and Son Limited, 1935.

¹⁸ H. Gregg Lewis and Paul H. Douglas, *Studies in Consumer Expenditure*, Chicago; University of Chicago Press, 1949.

¹⁹ L. J. Paradiso, *Survey of Current Business*, January, 1945 and January, 1950; L. J. Paradiso and Clement Winston, "Consumer Expenditure-Income Patterns", *Survey of Current Business*, September, 1955.

²⁰ See Kravis, *op. cit.*; also see Margaret E. Thomas "The Predictive Value of Consumer Expenditure Data as a Method of Forecasting", *Proceedings of the Business and Economic Statistics Sections*, American Statistical Association Montreal Meeting, 1954.

We are faced again with the same kind of problem as was encountered with respect to aggregate consumption-income relationships, the problem of reconciling the difference of view suggested by family budget and by time series data. Intuitively, the Friedman Hypothesis provides help in these cases²¹. The family budget studies are heavily influenced by those whose measured income departs from their permanent income. Such departures find outlets, to a considerable degree, in the timing of expenditures on durable and semi-durable goods. Those whose measured incomes are substantially below their permanent incomes will commonly be postponing expenditure on durables and semi-durables (though not the permanent consumption of these items). Those whose measured incomes are substantially higher than their permanent income will be making unusually high expenditure on durable and semi-durable goods (though not permanent consumption of these items). Clothing and personal furnishings are semi-durables. Thus, the Friedman Hypothesis suggests that the family budget studies will systematically overestimate the income (or total expenditure) elasticity of demand for clothing and personal furnishings, as that measure applies to the growth of income over time.

(c) *Forecast of Expenditure*

The evidence supporting the expectation of a small further decline in the ratio of expenditures on clothing and personal furnishings to total personal expenditure is quite convincing to this writer. It is the historic Canadian and American experience. (The proportion of Canadian incomes devoted to clothing exceeds the American levels, and this is partly to be explained by differences in standard of living.)

There is no very satisfactory basis for projecting the degree of decrease. Our guess is that expenditures on clothing, piece goods and notions will decrease from 10.65% of total personal expenditure between 1952-55 to about 10.25% of total expenditure by 1965 and 9.75% by 1980. We believe that the proportion of total expenditure devoted to jewellery and watches will be constant at about 0.75% of total personal expenditure. The purchase of maintenance services for clothing are expected to grow less than proportionately to total personal expenditure; our view is that such expenditures will account for about 0.87% of the consumer budget by 1965 and 0.70% by 1980, compared with 0.98% between 1952 and 1955. All of these estimates were based on constant (1949) prices. Taking the whole group, clothing and personal furnishings, the expectation is that such expenditures will account for about 11.9% of total personal expenditure by 1965 and 11.2% by 1980, compared with about 12.4% between 1952 and 1955. Looking at this another way, we expect that the total expenditure on clothing and personal furnishings in 1980 will be about 250% of 1952-55 levels, while total personal expenditure is expected to be about 280% of 1952-55 levels.

²¹ Milton Friedman, *A Theory of the Consumption Function*, New York, NBER, 1955.

Before leaving the matter two or three other factors which might affect consumer behaviour regarding expenditure on clothing should be touched on; these include changes in the structure of the population, shift of clothing manufacture from the home to the factory, changes in the technical characteristics of clothing and in the relative expensiveness of clothing and personal furnishings. In the brief of the Primary Textiles Institute, the age structure of the population is advanced as an important factor influencing expenditure on clothing. As a rough indicator it was assumed that the expenditure on clothing of those aged 14 and less and 65 and over would be about one-half of that made by people aged 15 to 64. (This is an application to the clothing sector of the equivalent-adult scale procedures, which are commonly found in the analysis of expenditure on food). Given this assumption, has the change in the age structure of the population been sufficient to significantly affect Canadian expenditure on clothing in the past? The answer is no. Consumer units, (defined as one-half of the population aged 0 to 14 and aged 65 and over, plus the total population aged 15 to 64), amounted to 81.4% of the population in 1931, 82.4% in 1941 and 81.0% in 1951. Further, given the population forecast made by the Commission, at no time in the future is the ratio of consumer units to the total population expected to be less than 79.4%. In other words, if the equivalent-adult scale for clothing which was used by the Primary Textiles Institute is considered appropriate, the future change in the population structure is not expected to be large enough to affect significant per capita clothing expenditure. The question remains as to whether the assumed scale is appropriate. Data available on the Dewhurst Study suggest that it is roughly so²².

A second feature of the population structure which may influence expenditure on clothing is the industrial and geographical distribution of the population. One of the most important changes that has taken place in the past is the shift of the population from rural to urban areas. While it is difficult to obtain measurements for comparable groups of people, the available evidence suggests that the proportion of expenditures devoted to clothing and personal furnishings is smaller in rural than in urban areas. On this account, past population shifts would tend to increase the proportion of expenditures devoted to clothing for the whole population. In fact, the proportion has declined despite this rural-urban shift. As this shift will probably be relatively smaller in the future, a somewhat more rapid decline in clothing and personal furnishings expenditures would be expected in the future.

At one time a very large part of the manufacture of clothing was carried on in the home; this was particularly so in the rural areas. In the

²² Dewhurst, *op. cit.* Data are presented on Workers Budget in the United States. The average expenditure on clothing for a boy or girl is approximately 56% of that for a husband or wife while the average expenditure per person for an elderly couple is a little less than 40% of that of an adult who is working or keeping house.

Table 34

CANADIAN EXPENDITURE ON CLOTHING AND PERSONAL FURNISHINGS
(historical data and prospects)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Aggregate personal expenditure in 1949 \$ (millions)	Aggregate expenditure on clothing and personal furnishings in 1949 \$ (millions)	Personal expenditure on all goods and services	Expenditure on clothing and personal furnishings (per capita)	Expenditure on clothing, footwear, piece goods and notions	Clothing and personal furnishings as % of total personal expenditure	Index of per capita expenditure on all goods and services	Index of per capita expenditure on clothing and personal furnishings (1955 = 100)	Index of total expenditure on clothing and personal furnishings
1926-29 average.....	5,816	597	84	73	14.1	65.3	77	48
1937-38 average.....	6,188	557	81	—	14.5	61.0	74	53
1946-50 average.....	10,834	836	115	—	13.7	91.4	105	87
1952-55 average.....	13,204 ^a	880	110	95	12.5	96.2	101	97
1951.....	11,572	826	106	91	12.8	90.3	97	87
1952.....	12,237	848	111	96	13.1	92.7	102	94
1953.....	12,905	873	112	96	12.8	95.5	102	97
1954.....	13,375	880	108	93	12.3	96.2	99	96
1955.....	14,300	914	109	95	12.0	100.0	100	100
1965.....	21,300	1,091	129	112	11.9	119.3	118	147
1980.....	41,600	1,561	175	152	11.2	170.7	160	270

^a Published data.
 SOURCE: Appendix C.

United States manufacture of clothing had been almost completely transferred to the factory by 1940. The trend in Canada appears to be quite similar, though with some lag behind the United States. Such a transfer implies a more rapid increase in expenditure on clothing, as measured in the national accounts. The home manufacture of clothing did not appear as part of the income nor as part of the expenditure in the national accounts.

With the development of synthetic fibres there has been very great improvement in the quality and durability of clothing and footwear. On the one hand, the improvement implies a reduction in expenditure on clothing; on the other hand, the increased range of items available tends to increase expenditure. The average price of clothing has fallen somewhat relative to the total expenditures in the past. However, there have been quite different ratios for various kinds of clothing, wool increasing in price much more than the average, while synthetic fabrics have fallen in price relatively. Some part of the substitution of synthetics for wool must be due to the relative cheapening of synthetics.

Table 35

CANADA: MISCELLANEOUS DATA ON CONSUMPTION OF CLOTHING AND PERSONAL FURNISHINGS

Year	(1)	(2)	(3)	(4)	(5)	(6)
	Apparent Canadian supply of fabrics per capita					Apparent Canadian supply of leather footwear per capita
	<i>Cotton</i> (yds.)	<i>Synthetics</i> (yds.)	<i>Silk</i> (yds.)	<i>Wool</i> (yds.)	<i>Total</i> (yds.)	(prs.)
1928.....	36.3	1.8	2.8	3.7	44.6	2.6
1929.....	32.4	2.3	2.6	3.6	40.9	2.5
1930-34 average.....	25.9	2.7	1.7	2.1	32.4	—
1935-39 average.....	30.2	4.5	0.9	2.5	38.1	2.5 ^a
1945-49 average.....	36.2	8.1	—	3.3	47.6	—
1950.....	38.0	9.3	—	3.0	50.3	2.7
1951.....	34.9	9.1	—	2.8	46.8	2.7
1952.....	34.0	8.8	—	2.4	45.2	2.8
1953.....	34.0	8.5	—	2.6	45.1	2.8
1954.....	30.4	7.7	—	2.0	40.1	2.5

^a Average of 1937 and 1938.

SOURCE: Columns (1), (2), (4) and (5), 1930-34, 1935-39, 1945-49, 1950-54, Brief of Primary Textiles Institute to Commission, Appendix E.

Columns (1), (2), (4) and (5), 1928-29 from 26th edition of *Manual of the Textile Industry*; column (3), all years from latter source.

Column (6)—Calculated from *Canadian Manufacturing Reports*.

VI. Shelter

(a) Introduction and Conclusions

Shelter accounted for about 10% of total personal expenditure between 1952 and 1955, if measurement is made in constant (1949) dollars, and about 12%, if measurement is made in current dollars. This group of

expenditures is of particular interest because of its relationship to investment in housing and the community's stock of capital in the form of housing, and because of the importance of housing to social welfare. This section is concerned with the trends and prospects for expenditure on shelter and with the implications of this expenditure for the stock and investment in housing.

Canadian data show quite clearly that shelter has accounted for a smaller proportion of total personal expenditure in recent years than it did during the late 1920's. Correspondingly, data on the stock of housing show that this item is a smaller part of the nation's capital stock now than three decades ago. In our judgment these trends are likely to continue. We think that the best bet in projecting shelter expenditure is to assume that this will decline from about 12% of total personal expenditure at present to about 10% by 1980, both measurements in 1955 dollars. In terms of constant (1949) dollars this is equivalent to a decline from a little more than 10% of personal expenditure in 1955 to about 8.5% of expenditure in 1980. The implied projections for space rent are set out in Table 36.

(b) Trends in Expenditure on Shelter

In Canada's national accounts, owner-occupied as well as rented housing is treated as part of the business sector of the economy. Consumer expenditure on shelter is viewed as the explicit or implicit rent on this housing, *i.e.* the shelter expenditure is the sum of rents paid by tenants, and the imputed rents of owner-occupied housing and a few other minor imputations. The measure of expenditure is a gross one; for the owner-occupied housing, the estimate would include the rents as if the property were let commercially to a tenant. The paid rents include the payments for space, plus an estimate of those heating costs provided by landlords plus whatever facilities and services are provided along with the space. As our interest is in the housing space, we have deducted the estimated landlord's fuel costs from the shelter expenditure as recorded by D.B.S., treating the revised concepts as a measurement of gross space rents. In principle we should also make a deduction from the imputed rents for the value of other services provided by landlords which find their way into the imputation. However, the method of imputation is an attempt to allow for higher average quality of owner-occupied than of tenant-occupied housing.

Data on the stock of housing (numbers and value) have been taken from the study of Residential Real Estate in Canada by O. J. Firestone²³, with the data being brought up to date by the Central Mortgage and Housing Corporation. The Firestone-CMHC estimates of the value of the stock of housing are a net estimate in the sense that they are estimates of the depreciated value of the housing stock which exists at any point of time. In the study of output, labour and capital prepared by the staff of the Com-

²³ O. J. Firestone, *Residential Real Estate in Canada*, 1951.

mission, a new estimate of the value of the stock of housing was made²⁴. This new estimate includes both a gross and net value figure. The level of the new estimates is considerably below the Firestone-CMHC values mainly because of differences regarding the average expected life of housing. However, the trend in the two sets of estimates of the value of the housing stock is the same.

Data on the historical records of gross space rent in Canada and the stock of housing are set out in Table 36. Rents in Canada at present comprise about one-tenth of the consumer expenditure, measured in constant (1949) dollars. In a study of the structure of consumption at various times and places, Irving Kravis used the Canadian national accounts gross rents estimates, which include landlord's fuel costs. His percentage for gross rent in Canada is 12.6% compared with 11.8% for the United States. This difference is not great and is explained primarily by the lower shelter outlays required in those areas of the United States where winter is not severe²⁵.

The data set out in Table 36 indicate a gradual decline in the relative importance of rent as a share in consumer expenditure. The decline is from about 12.3% of total personal expenditure between 1926 and 1929 to about 10.1% of personal expenditure between 1952 and 1955, both measurements in 1949 dollars. In current dollars the decline is from about 14% to 12% during the same period of time. This decline was not evident during the 1930's and the relatively lower aggregate rents during the past 15 years might be explained in part by reference to short-term considerations. However, it is important that during the past six years the percentage has been consistently about one-sixth below the levels of the 1920's. Considerable fluctuations in the proportion of consumer expenditure devoted to space rent were experienced between 1930 and 1948. During depression years, rent consistently accounted for a larger share of consumer expenditure than it has in recent years. By 1937 the percentage reached the level of the late 1920's but the war soon introduced new factors to the situation. The lack of new housing was probably the most important of these. The average age of dwellings increased by three years between 1938 and 1945. While a similar change is evident during the 1930's, it apparently was counter-balanced by the negative effect of low income on other expenditure. By contrast, during the late 1920's and again during the late 1940's, the average age of houses, especially urban houses, remained constant.

The study by Kravis on the pattern of consumer expenditure in various countries and at various times provides somewhat mixed evidence regarding housing. Countries with higher living standards do not always devote

²⁴ Wm. C. Hood and A. D. Scott, *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

²⁵ Irving B. Kravis, *International and Interterporal Comparisons of the Structure of Consumption* (preliminary mimeographed copy), National Bureau of Economic Research, 1955.

smaller fractions of their expenditure to housing, but many qualitative considerations such as climate affect these spatial comparisons. One consistent pattern is noted by Kravis; in those wealthy countries which have experienced steady and substantial growth in real income, housing expenditure has comprised a declining proportion of total personal expenditure over time.

Family budget studies of the relationship between shelter expenditure and various family attributes have been carried out for many years and many countries. While there are differences among these studies, the estimates of the income elasticity of demand for shelter, in the majority of cases, is less than unity; *i.e.* 10% increase in income is accompanied by a less than 10% increase in outlays on shelter. In 21 family budget surveys (which had information on shelter) reviewed in Allen and Bowley, only 6 had an estimate of the income elasticity of demand for housing which was unity or larger. Of these 6, one referred to German officials and 4 others referred to Scandinavian countries.²⁶

(c) *Forecast of Expenditure on Shelter*

The historical and comparative evidence supports the expectation that space rent will account for a somewhat smaller proportion of total personal expenditure in the future than it does at the present time. The only question is the prospective rate of decline in the proportion. It is our judgment that the decline will be at about the same rate as has taken place between 1926-29 and 1952-55, when the proportion fell by about one-sixth of the earlier levels. This implies a decrease in the proportion devoted to shelter from about 10.1% between 1952-55 to 8.5% in 1980, measured in constant (1949) dollars, and from about 12% to 10% of total personal expenditure, measured in constant (1955) dollars. This means that gross space rent in 1980 is expected to be 230% to 235% of 1955 levels, compared with total personal expenditure of 285% of 1955 estimates. The projections are set out in Table 36. All of these projections are based on an average of the high and the low G.N.E., assuming an annual net immigration of 75,000.

(d) *Some Implications of the Prospective Personal Expenditure on Shelter*

Assuming that our views about the prospective personal expenditure on shelter (space rents) are correct, what are the implications for the stock of housing, investment in housing and improvements in the quality of housing? Broadly speaking, the expectation is that investment in housing will account for smaller proportions of G.N.P. in the future; in other words, the construction of residential housing is expected to increase less rapidly than G.N.P. However, the investment in housing will be much more than is required to maintain present housing standards; for a growing population

²⁶ Allen and Bowley, *op. cit.*

the projection of space rents implies an improvement in the average quality of housing.

In the long run, there is some maximum value to the stock of housing which can be supported on the basis of any specific level of consumer expenditure on shelter. The Canadian data suggest that there have been comparatively modest changes in the value of the stock of housing relative to the space rents. If this holds in the future, then a growth in the personal expenditure on shelter which is less rapid than the total G.N.P. implies that the value of the stock of housing will increase less rapidly than G.N.P. It follows that the average level of investment in housing as a proportion of G.N.P. will also decrease.

This view of the future is quite different from Canadian experience during the last 12 years, when a comparatively large proportion of Canadian output has been devoted to construction of residential real estate. These matters and a detailed projection of investment in housing have been dealt with in the study of housing and social capital prepared for the Commission²⁷. Here we might simply point out the unusual factors influencing the Canadian investment in housing since the end of World War II, factors which make the historic experience different from our view of the future prospects. Postwar investment in housing has been exceptionally high, because of the backlog of demand for housing carried over from the depression and the war period; the exceptionally high rate of shift from rural to urban areas; the rapid increase in the rate of population and the comparatively cheap financing available for housing.

The question arises as to whether the estimates of space rent which we have set out are consistent with providing enough houses to take care of the growth in the number of families and non-family households. The answer is clearly yes. If enough housing was provided to supply the expected family formation and the increase in the non-family households, and to substantially reduce the doubling-up of families in housing which now exists, and this housing was of the same average quality as the additions to the housing stock during the last five years, the increase in the value of the stock of housing would be insufficient to account for the space rents which we have projected. Only if the average quality of the additions to the stock of housing is improved substantially beyond recent levels will the value of the housing stock increase sufficiently to account for the projected space rents. The projections of the investment in housing, in the Commission's study of housing and social capital, have made some allowance for improvement in the quality of housing. In other words, even though smaller proportions of our consumer budgets will probably be devoted to shelter in the future than at present, the prospect is for some improvement in the average quality of housing in Canada.

²⁷ Yves Dube, J. E. Howes and D. L. McQueen, *Housing and Social Capital*, a study prepared for the Commission, Ottawa, 1957.

Table 36

CANADA: PROSPECTS FOR PERSONAL EXPENDITURE ON SHELTER

Year	(1) Aggregate personal expenditure in constant (1949) \$ (billions)	(2) Gross space rents as % of aggregate personal expenditure in 1949 \$ (%)	(3) Gross space rents in constant (1949) \$ (billions)	(4) Gross space rents in constant (1949) \$ per capita (\$)	(5) Index of aggregate personal expenditure, 1955 = 100 (index)	(6) Index of gross space rents 1955 = 100 (index)	(7) Aggregate personal expenditure in 1955 \$ (billions)	(8) Gross space rents as % of aggregate personal expenditure in 1955 \$ (%)	(9) Gross space rent in 1955 \$ (billions)
1926-1929.....	5.8	12.4	0.72	73.9	40.6	50.3			
1953-1955.....	13.5	10.1	1.36	89.4	94.4	95.1	15.9	12.0	1.91
1953.....	12.9	9.9	1.28	86.6	90.2	89.5	15.1	11.3	1.70
1954.....	13.4	10.3	1.37	90.1	93.7	95.8	15.8	12.2	1.93
1955.....	14.3	10.0	1.43	91.4	100.0	100.0	16.9	12.5	2.11
1965.....	21.5	9.4	2.02	103.5	150.3	141.2	25.1	11.2	2.81
1970.....	27.2	9.1	2.48	114.8	190.2	173.4	31.8	10.8	3.43
1975.....	33.8	8.8	2.97	123.8	236.4	207.7	39.5	10.4	4.11
1980.....	41.7	8.5	3.54	132.8	291.6	247.6	49.0	10.1	4.95

As it was assumed that the gross space rents as a percentage of aggregate personal expenditure was to decline by 10% between 1955 and 1980 instead of the 16% used in the above table, the gross space rent in 1980 would be \$3.75 billion, in 1949 prices, and \$5.29 billion, in 1955 prices.

SOURCE: Columns (1) and (7) D.B.S., *National Accounts, Income and Expenditure*, various issues; projections from Chap. 3 of this study, based on the average of the high and low forecasts of G.N.E., made in the Commission's study of *Output, Labour and Capital*. Columns (3) and (9) see Appendix B to this study for the historical data.

Table 37

BASIC DATA—EXPENDITURE ON SHELTER

(1) Aggregate space rent	(2) Constant (1949) \$		(3) Space rent as % of total personal expenditure		(4) Constant (1949) \$		(5) Stock of houses		(6) Net value Firestone-CMHC series		(7) A.D. Scott net value		(8) Space rent as % of value of stock, CMHC-Firestone estimates		(9) Space rent as % of Scott's estimate of housing stock	
	Current \$		Current \$				No.		Firestone-CMHC series		A.D. Scott net value		Space rent as % of value of stock, CMHC-Firestone estimates		Space rent as % of Scott's estimate of housing stock	
1926....	550	677	14.5	13.0	2,106	10,605	—	—	—	—	—	—	6.4	—	—	—
1927....	567	707	14.0	12.4	2,157	10,876	—	—	—	—	—	—	6.5	—	—	—
1928....	598	727	13.8	12.0	2,214	11,182	—	—	—	—	—	—	6.5	—	—	—
1929....	634	756	14.0	12.0	2,271	11,479	—	—	—	—	—	—	6.6	—	—	—
1930....	665	772	15.2	12.6	2,318	12,462	—	—	—	—	—	—	6.2	—	—	—
1931....	637	731	16.9	13.1	2,358	12,627	—	—	—	—	—	—	6.0	—	—	—
1932....	569	734	17.8	13.7	2,379	12,619	—	—	—	—	—	—	5.8	—	—	—
1933....	504	716	17.4	14.1	2,395	12,561	—	—	—	—	—	—	5.7	—	—	—
1934....	490	728	15.9	13.7	2,417	12,556	—	—	—	—	—	—	5.8	—	—	—
1935....	511	745	15.7	13.3	2,443	12,594	—	—	—	—	—	—	5.9	—	—	—
1936....	531	750	15.3	12.8	2,476	12,695	—	—	—	—	—	—	5.9	—	—	—
1937....	567	765	15.0	12.3	2,517	12,119	—	—	—	—	—	—	6.3	—	—	—
1938....	590	764	15.4	12.4	2,554	12,241	—	—	—	—	—	—	6.2	—	—	—
1939....	602	768	15.4	10.7	2,598	12,419	—	—	—	—	—	—	6.2	—	—	—
1940....	633	782	14.4	11.4	2,643	12,595	—	—	—	—	—	—	6.2	—	—	—
1941....	680	811	13.4	11.0	2,693	13,562	—	—	—	—	—	—	6.0	—	—	—
1942....	717	842	13.0	10.9	2,733	13,699	—	—	—	—	—	—	6.1	—	—	—
1943....	741	869	12.9	11.1	2,763	13,752	—	—	—	—	—	—	6.3	—	—	—
1944....	766	895	12.3	10.7	2,799	13,846	—	—	—	—	—	—	6.5	—	—	—
1945....	796	929	11.7	10.2	2,840	14,007	—	—	—	—	—	—	6.6	—	—	—
1946....	816	947	10.2	9.2	2,899	14,332	—	—	—	—	—	—	6.6	—	—	—
1947....	898	990	9.7	9.2	2,970	14,769	—	—	—	—	—	—	6.6	—	—	—
1948....	987	1,034	9.8	9.8	3,209	15,259	—	—	—	—	—	—	6.7	—	—	—
1949....	1,114	1,114	10.1	10.2	3,297	15,826	—	—	—	—	—	—	6.8	—	—	—
1950....	1,293	1,185	10.7	10.2	—	—	—	—	—	—	—	—	7.0	—	—	—
1951....	1,441	1,214	10.9	10.5	—	—	—	—	—	—	—	—	—	—	—	—
1952....	1,586	1,249	11.0	10.2	—	—	—	—	—	—	—	—	—	—	—	—
1953....	1,703	1,282	11.3	9.9	—	—	—	—	—	—	—	—	—	—	—	—
1954....	1,933	1,374	12.2	10.3	—	—	—	—	—	—	—	—	—	—	—	—
1955....	2,106	1,434	12.5	10.0	3,828	18,729	—	—	—	—	—	—	7.7	—	—	—

SOURCE: (1) The *National Accounts* estimate of shelter expenditure less the estimated landlord's fuel costs. Columns (5) and (6) O. J. Firestone, *Residential Real Estate in Canada, 1951*, adjusted and extended by CMHC. Column (7) Chap. 7, Commission study *Output, Labour and Capital in the Canadian Economy*.

Table 38

SOME IMPLICATIONS OF THE PROSPECTIVE CONSUMER EXPENDITURE ON SHELTER

Year	(1) Gross space rents 1949 \$ (billions)	(2) Rents as % of net value of housing stock (%)	(3) Implied net value of housing stock — Firestone— CMHC estimates (billions)	(4) Index of net value of housing stock 1955 = 100 (index)	(5) Projected new investment in housing in 1949 \$ (millions)	(6) Index of projected new investment in housing 1955 = 100 (index)	(7) Projected no. of houses in housing stock (millions)	(8) Projected average net value per house in housing stock 1949 \$ (%)
1926-29.....	0.72	6.4	11.04	58.9	463	41.3	—	—
1949.....	1.11	7.0	15.83	84.5	—	—	—	—
1953-55.....	1.36	—	—	—	955	85.2	—	—
1953.....	1.28	—	—	—	832	74.2	—	—
1954.....	1.37	—	—	—	910	81.1	—	—
1955.....	1.43	7.6	18.73	100.0	1,122	100.0	3.83	4,890
1965.....	2.02	7.7	26.23	140.0	1,207	107.6	4.95	5,300
1970.....	2.48	7.7	32.21	172.0	1,599	142.6	5.63	5,720
1975.....	2.97	7.7	38.57	205.9	1,683	150.1	6.42	6,010
1980.....	3.54	7.7	45.97	245.4	1,922	171.4	7.30	6,300

SOURCE: Column (1)—See Tables 44 and 45.

Column (2)—See Table 45.

Column (3)—See D.B.S., *National Accounts, Income and Expenditure*, various issues for historical data; see Commission study *Housing and Social Capital* for the projections;Column (4)—See O.J. Firestone, *Residential Real Estate in Canada*, and reports of CMHC; for projections see Commission study *Housing and Social Capital*.

Column (5)—Col. (2) divided by Col. (7).

Column (6)—Col. (2) divided by Col. (7).

VII. Durable Household Goods Including Appliances and Furniture

(a) Conclusions

When comparisons are made between Western Europe and North America, one of the most common observations is the much greater use of durable household goods, particularly electrical equipment, in the United States and Canada. Expenditures on durable household goods are taken as an indicator of North American standards and patterns of living. However, the importance of such durable household goods (furniture, household appliances, radio and television equipment) in North America should not be overemphasized; in aggregate these goods account for between 4% and 5% of total expenditures, a much smaller proportion than is devoted to food or to shelter or to clothing and personal furnishings.

While the proportion of expenditure on durable household goods is not large, this class of expenditure has increased quite rapidly during the past three decades. Per capita expenditures on all goods and services, measured in constant dollars, have increased at an average rate of 1.5% per annum, while per capita expenditures on durable household goods have increased at about 2.25% per annum. The typical pattern of development during the past three decades has been repeated waves of general adoption of new durable goods. After a new durable good has been developed and put into mass production with relatively low cost per unit, there has followed a very rapid increase in expenditure on that good. When the expenditure on this particular appliance has tapered off, some new good has entered the phase of rapid adoption. Chronologically, the main waves of adoption have been radios in the late 1920's and early 1930's, mechanical refrigeration in the late 1930's and 1940's, electrical cooking equipment, improved radio equipment after the World War II, and more recently, television sets. Already a number of such commodities as automatic washing machines, clothes dryers, air conditioners and home freezing equipment are in the early stages of adoption. It is our expectation that the proportion of total expenditure devoted to household durables will continue to increase and that the historical experience of development of new durable commodities will continue.

(b) Trends in Expenditure

In Canada, the expenditure on new household appliances accounted for about 2.75% of total consumer expenditure between 1952 and 1955; expenditure on furniture accounted for another 1.63%. For household appliances the current proportions of expenditure are record levels. For example, between 1926 and 1929 household appliances accounted for 2.0% of expenditure. Data on the levels of expenditure on appliances, furniture and shelter are found in Table 39²⁸.

²⁸ There are a number of durable household goods not included in the coverage in the national accounts, including power and hand tools, gardening equipment, and sporting equipment. Data on sales of such equipment are not readily available.

It is not readily possible to indicate the distribution of expenditure on household appliances at retail levels. However, an indication of the content of this expenditure is given by estimates of the apparent domestic consumption of various items valued at producers' prices. These data are found in Table 40. The data show that more than 40% of the current expenditure on durables is devoted to radios and television sets, while refrigerators account for approximately 14%, washing machines for approximately 12% and stoves for approximately 20%. The table shows that the proportion of expenditure on durables which was devoted to radio sets increased very sharply in the late 1920's and then declined somewhat. Since 1950 the introduction of television sets has resulted in a very substantial increase in the proportion devoted to radio and television equipment. Washing machines accounted for approximately 20% of the expenditure in the late 1920's and became proportionately less important until recently when automatic equipment was introduced. During the 1930's mechanical refrigeration came to be much more important as an outlet for expenditure on consumer durables, and expenditures on refrigerators continued to increase relatively until 1951. In the late 1920's non-electric stoves were very much more important than electric stoves as an outlet for expenditure. Since that time there has been a gradual and persistent shift to cooking with electricity.

Table 41 presents data on the Canadian population, number of households, constant dollar expenditure on household durables and the apparent volume of sales of major household appliances. This table shows that expenditures on household appliances amount to a little more than \$100 per annum per household (measured in 1949 prices) at the present time. This represents a level which is more than 65% higher than was experienced in the late 1920's while income per household had increased by no more than 45%. Current (1955) levels of annual sales of durables would run at about 375,000 refrigerators, slightly fewer than 300,000 washing machines, 650,000 radios, 770,000 TV sets and slightly fewer than 300,000 stoves. The enormous increase in annual sales is indicated by comparisons with the late 1920's. The current level of sales of mechanical refrigerators would be almost 1900% of 1929 levels while current sales of washing machines would be 250% and of radios 250% of 1929 levels. Sales of stoves would be at about the same level as in 1929, but current sales are predominantly of electrical equipment.

When explaining the growth and fluctuations in expenditures on household consumer durables it is useful to consider a typical pattern of development and sale of a single class of goods. Assume that a new good is introduced and finds wide and rapid public acceptance. At first the rate of increase in sales will be very much higher than the rate of increase in the number of households. As the proportion of households with the equipment approaches 100%, the net additions to the stock of this good will decrease; if current sales were based only on net additions to stock, the rate of in-

crease in annual sales would eventually approach the rate of increase in the number of households; if one household used, at most, one unit of the good, the levels of sales would approach the level of the annual absolute increase in the number of households. This is what the trade describes as saturation.

All durable household articles have a limited life. Thus, beginning some time after the introduction of the good, a pattern of replacement will develop, the replacement demand being added to the net additions to stock. Depending on the life of the asset (which depends partly on the technical qualities of the equipment and partly on the introduction of new models) there will be fluctuations in the replacement demand just as there were in the initial buildup of stocks. Assuming one unit of equipment per household, eventually the rate of increase of sales, including replacement items, would approach the rate of increase of households, with annual sales somewhat higher than the absolute number of additional households. The oscillations which are involved in approaching this trend will depend on the speed at which the new good were taken into use and the life-table of the type of asset being considered. The shorter the period of buildup, the more violent will be the oscillations which follow. The longer the life of a unit of the equipment, the more protracted is the time it will take for the oscillations to dampen down.

When the data on sales of various durables in Canada are examined, it is found that the fluctuations of production have not been great. Further, in the aggregate the fluctuations in the proportion of personal expenditure on durable household equipment have been quite small. For an individual class of goods, the introduction of new models tends to increase the speed of replacement. For example, despite the fact that a large proportion of Canadian homes had refrigerators by 1951, the new features introduced since that date may be expected to lead to continued high levels of sales. For some classes of goods, many households desire more than one unit of a particular kind of equipment. This has already developed for radios and is expected to develop for TV sets. The electrification of summer cottages has already had some impact on the demand for refrigerators and stoves. In the aggregate, the Canadian experience suggests that at the same time as some classes of goods have been approaching saturation new goods have been in the early phases of widespread adoption. Thus the fluctuations in the proportion of personal expenditure devoted to durables has been much smaller than in the proportion devoted to any particular class of goods. The best example is the current experience in which rapid increases in expenditure on TV sets has offset the relative decline in expenditures on refrigerators and stoves.

(c) *Explanation of Trends in the Demand for Household Durable Equipment*

While it is not possible to provide an explanation of trends in any ultimate sense, we can indicate a number of factors which have been of im-

portance in the historic development of the Canadian market for durable household goods.

1. During the past three decades there has been a considerable extension of cheap home electricity to Canadian households. Most of the household durables are based on the availability of cheap home supply of power. The spread of electricity has facilitated a great broadening of the market for household appliances in Canada.
2. Another factor which has stimulated the growth in use of household appliances has been their comparative cheapness, together with the increased expensiveness of domestic service and many commercial services. In a sense there has been a substitution of capital for labour in housework. During the past three decades, labour generally and domestic service particularly has become very much more expensive in North America. On the other hand, mass production of appliances has tended to make them comparatively cheap in North America.
3. Judging by the birth statistics of the last 15 years, an increase in average family size of the smaller families is taking place. This implies an increased volume of work to be done in the home. This factor provides additional support to the more widespread use of household durable appliances.
4. During the past three decades there has been a considerable development in commercial credit facilities for the financing of purchases of household appliances and other forms of durable goods. In the absence of such facilities a purchaser would have had to accumulate a capital fund in advance of acquisition of the good. The commercial credit facilities permit him to make his purchases somewhat more quickly and probably induce him to carry on a somewhat higher rate of saving.
5. The factor which probably dominates the growth in the use of household durable goods has been the growth in real incomes in North America. We have shown that the proportion of total personal expenditure devoted to these purchases has increased slightly but there is no indication of a revolutionary reallocation of the average family budget in the direction of household appliances. While we expect the purchases of household appliances to become relatively more important in the future, the prospects for such expenditure depend primarily on the future prospects of real income for the community.

(d) *The Prospects for Expenditure*

In forecasting the demand for durable household equipment one of the first questions which has to be settled is whether Canadian experience during the last five to ten years has been abnormal. In the forecasts made by the staff of the Paley Commission²⁹, it was argued that the expenditures

²⁹ U.S. The President's Materials Policy Commission, *Resources for Freedom*, June, 1952, Vol. II.

on consumer durables were abnormally high during the period 1948 to 1950. This judgment led the Paley Commission to expect a relative decline on expenditures of consumer durables for some time and to expect an output and consumption of consumer durables in 1975 which was only slightly higher than that in 1950.

In our judgment the proportion of expenditure devoted to durable household equipment and furniture is not exceptionally high during recent years, though 1955 appears to be a little higher than might be normally expected. First, the proportion of expenditure devoted to durables throughout the postwar period is only about 25% above that which was experienced in the immediate prewar years and in the late 1920's. Second, while there has been a rapid increase in the proportion of households with certain types of equipment (See Table 42), there appeared to remain very substantial backlogs of desire for additional equipment. For example, approximately 76% of the households have mechanical refrigeration facilities now compared with about 21% in 1941. Ninety-six per cent of the households have at least one radio. However, less than 40% of the households had one television set³⁰, only slightly more than 50% had a vacuum cleaner and very small proportions have automatic laundry facilities, deep-freeze equipment or air conditioners. The comparatively young age of the stocks of refrigeration equipment and electric ranges probably means that no very great replacement of recently acquired equipment will take place for some years. While there are considerable gaps to be filled to even get one piece of each type of equipment per house, there are, in addition, the possibilities of having several pieces of the same type of equipment. For example, the television sales may be expected to follow the radio pattern. For radios, the ownership of two, three and four sets per household is quite common today. Refrigerators and stoves will be added to summer cottage facilities.

Third, for some types of equipment the Canadian household stocks are relatively out of date. For example, probably not more than 5% of the home laundry equipment consists of automatic machines. In 1955, only 20% of Canadian sales of washing machines were of the automatic variety compared with 80% automatic in the United States. The story is somewhat similar with respect to cooking equipment and refrigerators. Finally, the idea of saturation of our desires for additional consumer durables does not sit very well alongside a rough estimation of the expenditure which we could make now to provide a well-equipped house. Even with his current holdings of equipment, the average householder would have no difficulty in spending \$2,500 on additional or replacement household appliances during the next ten years. If economic conditions continue to be favourable we may reasonably expect continued high levels of expenditure on consumer durables. This assumes that the manufacturers will be sufficiently ingenious in making our existing stocks of equipment out of date, so that considerable replace-

Table 39

CANADA: EXPENDITURE ON DURABLE HOUSEHOLD EQUIPMENT

	(1) Aggregate personal expend- iture in current \$	(2) Aggregate expend- iture on furniture in current \$	(3) Aggregate expend- iture on appliances, radio and TV sets in current \$	(4) % of total personal expenditure current \$		(6) Aggregate personal expend- iture in 1949 \$	(7) Aggregate expend- iture on furniture in 1949 \$	(8) Aggregate expend- iture on appliances, radio and TV in 1949 \$	(9) % of total personal expenditure in 1949 \$	
				(2) Furniture (1) x 100	(3) Household appliances radio and TV (1) x 100				(7) Furniture (6) x 100	(8) Household appliances and TV (6) x 100.
1926.....	3,782	44.7	66.9	1.18	1.76	5,195	77.2	103.7	1.49	1.99
1927.....	4,045	49.5	74.0	1.22	1.83	5,681	87.1	116.9	1.53	2.06
1928.....	4,333	56.3	84.2	1.29	1.94	6,068	99.8	134.0	1.64	2.20
1929.....	4,544	64.7	96.9	1.42	2.13	6,320	115.1	154.8	1.82	2.45
Average 1926-29.....	4,176	53.8	80.5	1.29	1.93	5,816	94.8	127.4	1.63	2.19
1930.....	4,365	59.6	89.2	1.37	2.04	6,122	107.6	144.6	1.76	2.36
1936.....	3,457	43.4	57.3	1.26	1.66	5,869	86.3	102.1	1.47	1.74
1937.....	3,777	55.5	66.4	1.47	1.76	6,212	104.9	112.5	1.69	1.81
1938.....	3,815	51.2	63.4	1.34	1.66	6,163	95.8	105.3	1.54	1.71
1939.....	3,904	51.7	63.8	1.32	1.63	6,338	96.9	107.2	1.53	1.69
Average 1936-39.....	3,738.3	50.5	62.7	1.35	1.68	6,145	95.7	106.8	1.56	1.74
1946.....	7,977 *	126.3	134.0	1.58	1.68	10,266	173.2	164.8	1.69	1.61
1947.....	9,173	152.4	191.0	1.66	2.08	10,741	176.0	199.4	1.64	1.86
1948.....	10,112	162.0	215.2	1.60	2.12	10,555	168.0	209.7	1.60	1.99
1949.....	10,963	171.6	253.7	1.57	2.31	10,963	171.6	253.7	1.57	2.31
1950.....	12,029	183.3	281.2	1.52	2.34	11,645	180.2	277.3	1.55	2.38
1951.....	13,273	191.9	283.1	1.45	2.13	11,572	169.8	249.6	1.47	2.16
1952.....	14,366	240.1	348.4	1.67	2.42	12,237	207.5	304.2	1.69	2.49
1953.....	15,112	251.9	388.4	1.67	2.57	12,905	214.7	348.7	1.66	2.70
1954.....	15,823	250.9	411.6	1.59	2.60	13,375	213.5	384.3	1.60	2.87
1955.....	16,709	274.0	438.1	1.64	2.62	14,300	236.6	426.2	1.65	2.98
Average 1952-55.....	15,502.5	254.2	396.6	1.64	2.56	13,204.3	218.1	365.9	1.65	2.77

SOURCE: See Appendix B.

Table 40

APPARENT DOMESTIC DISAPPEARANCE OF SELECTED HOUSEHOLD APPLIANCES
(*valued at producers' prices*)

	1928	1929	1930	1937	1947	1948	1949	1950	1953
Value of apparent domestic disappearance									
Refrigerators.....	2.1	4.1	3.9	8.0	26.4	22.9	35.6	69.2	39.6
Washing machines.....	10.3	12.1	10.7	5.6	24.6	30.1	33.1	26.9	33.8
Radio and TV sets.....	14.0	29.3	30.9	15.1	67.9	50.1	57.3	74.0	109.8
Stoves, electric.....	3.5	3.6	2.8	2.1	9.2	14.1	23.1	28.0	30.0
Stoves, non-electric.....	9.1	9.5	8.4	9.9	13.3	14.6	21.7	21.1	23.0
Vacuum cleaners.....	1.0	1.3	2.4	10.8	11.1	10.5	11.0	12.6	13.6
Sewing machines.....	—	0.3	n.a.	n.a.	9.0	11.2	11.2	12.1	20.5
Phonographs and record players.....	3.3	1.7	n.a.	0.2	2.9	0.9	1.6	1.6	2.9
Flat irons, electric.....	0.4	0.4	0.4	0.4	2.9	2.9	2.9	3.5	3.1
Domestic electric irons.....	—	—	n.a.	0.3	0.5	1.3	1.4	1.5	0.7
Electric toasters.....	0.3	—	0.3	0.3	1.2	1.6	2.4	1.8	2.5
Food mixers.....	—	—	—	n.a.	0.9	0.9	1.3	1.9	2.2
Waffle irons.....	—	—	—	—	0.1	0.2	—	—	0.3
Total.....	43.9	62.6	59.8	52.7	170.0	161.3	202.6	254.2	282.2
% of apparent domestic disappearance									
Refrigerators.....	4.8	6.5	6.5	15.2	15.5	13.6	17.6	27.2	14.0
Washing machines.....	23.5	19.3	17.8	10.6	14.5	18.7	16.3	10.6	12.0
Radio and TV sets.....	31.9	46.7	51.5	28.6	39.9	31.1	28.3	29.1	38.9
Stoves, electric.....	8.0	5.7	4.7	4.0	5.4	8.7	11.4	11.0	10.6
Stoves, non-electric.....	20.7	15.1	14.0	18.8	7.8	9.1	10.7	8.3	8.1
Vacuum cleaners.....	2.3	2.1	4.0	20.5	6.5	6.5	5.4	5.0	4.8
Sewing machines.....	—	0.5	—	—	5.3	6.9	5.5	0.6	7.3
Phonographs and record players.....	7.5	2.7	1.4	0.4	1.7	0.6	0.8	1.4	1.0
Flat irons, electric.....	0.9	0.6	0.7	0.8	1.7	1.8	1.4	0.6	1.1
Domestic electric irons.....	—	—	—	0.6	0.3	0.8	0.2	0.7	0.3
Electric toasters.....	0.7	—	—	0.6	0.7	1.0	1.2	0.7	0.9
Food mixers.....	—	—	—	—	0.5	0.6	0.6	—	0.8
Waffle irons.....	—	—	—	—	0.1	0.1	—	—	0.1

SOURCE: Computed from data in *Census of Manufactures and Trade of Canada*.

Table 41

SELECTED DATA ON HOUSEHOLD CONSUMER DURABLES

	population (millions)	Households (thousands)	Increase in no. of households (thousands)	Aggregate expenditure on appliances and radios in constant 1949 \$ (millions)	Expenditure on appliances etc., per household (dollars)	Apparent domestic disappearances of				
						mechanical refrigerators (thousands)	stoves (thousands)	washing machines (thousands)	radio sets (thousands)	TV sets (thousands)
1926....	9.45	2,040	—	104	51.6	—	—	—	74.4	—
1927....	9.63	2,091	51	117	56.8	—	—	80.2	76.8	—
1928....	9.83	2,154	63	134	63.2	12.2	358.0	109.8	81.6	—
1929....	10.03	2,214	60	155	71.0	23.1	339.5	124.9	268.8	—
1930....	10.20	2,262	48	145	64.9	15.3	—	103.4	—	—
1931....	10.38	2,288	26	121	53.5	27.8	—	84.4	368.4	—
1932....	10.51	2,274	—14	90	40.0	24.8	—	61.3	141.6	—
1933....	10.63	2,287	13	76	33.8	16.6	—	60.0	—	—
1934....	10.74	2,336	49	83	36.0	29.6	—	87.1	—	—
1935....	10.84	2,380	44	94	40.3	25.0	—	88.1	190.8	—
1936....	10.95	2,416	36	102	42.9	49.7	—	111.0	254.4	—
1937....	11.04	2,470	54	113	46.3	66.4	—	123.5	289.2	—
1938....	11.15	2,511	41	105	42.6	60.8	—	91.9	282.0	—
1939....	11.27	2,557	56	107	42.6	55.4	—	104.3	405.6	—
1940....	11.38	2,621	64	127	49.2	72.6	—	131.0	462.0	—
1941....	11.51	2,672	51	127	47.5	64.6	—	130.8	396.0	—
1942....	11.65	2,766	94	—	—	37.2	—	68.2	208.8	—
1943....	11.80	2,811	45	—	—	0.4	—	13.2	26.4	—
1944....	11.95	2,860	48	—	—	0.2	—	33.7	3.6	—
1945....	12.07	2,919	59	86	30.0	3.3	—	57.8	45.6	—
1946....	12.29	2,992	73	165	56.5	67.7	—	126.6	596.4	—
1947....	12.55	3,067	75	199	66.6	132.7	509.7	268.7	895.2	—
1948....	12.82	3,145	78	210	68.3	123.7	463.5	308.9	568.8	—
1949....	13.44	3,232	87	254	80.7	164.2	452.8	331.4	745.2	—
1950....	13.71	3,310	78	277	85.8	355.0	371.4	276.4	768.0	—
1951....	14.00	3,328	18	250	75.4	340.8	—	205.2	595.2	—
1952....	14.43	3,403	75	304	91.4	437.8	300.3	250.7	—	—
1953....	14.78	3,479	76	349	—	492.2	264.5	277.3	611.2	446.6
1954....	15.20	3,554	75	384	—	363.1	—	235.4	487.4	643.1
1955....	15.64	3,653	99	426	114.4	—	—	292.2	645.9	770.4

Table 42

CANADIAN STOCKS OF VARIOUS CONSUMER DURABLES

	Unit	1941	1947	1951	Sept. 1953	Sept. 1955
Part A: Population, households, families and no. of households with at least one of items listed						
1. Population.....	thousands	11,507.	12,551.	14,009.	14,893.	15,706.
2. Households.....	thousands	2,573.	3,136.	3,328.	3,641.	3,872.
3. Families.....	thousands	—	—	3,354.	3,539.	3,703.
4. Households with at least one of following:						
a. Electric range.....		1,019.	—	976.	1,261.	1,642.
b. Gas range.....		1,514.	—	724.	833.	786.
c. Wood or coal range.....		539.	—	1,485.	1,315.	1,191.
d. Mechanical refrigerator.....		1,198.	—	1,595.	2,415.	2,941.
e. Mechanical refrigerator or icebox.....		n.a.	—	2,216.	2,754.	3,102.
f. Power washing machine.....		624.	—	2,471.	2,923.	3,196.
g. Electric vacuum cleaner.....		2,003.	2,818.	1,414.	1,748.	2,010.
h. Radio.....		—	n.a.	3,144.	3,511.	3,712.
i. Television set.....		1,038.	n.a.	n.a.	373.	1,496.
j. Telephone.....		—	1,560.	2,028.	2,434.	2,675.
k. Sewing machine.....		1,781.	—	—	2,410.	2,576.
l. Electricity.....		—	—	2,967.	3,335.	3,616.
Part B. % of households with at least one of following:						
a. Electric range.....		39.6	—	50.7	57.5	42.4
b. Gas range.....		—	—	—	—	20.3
c. Wood or coal range.....		—	—	—	—	30.8
d. Mechanical refrigerator.....		20.9	—	47.6	66.3	76.0
e. Mechanical refrigerator or icebox.....		n.a.	—	73.8	80.3	80.1
f. Power washing machine.....		24.3	—	42.2	48.0	82.6
g. Electric vacuum cleaner.....		77.9	—	93.8	96.4	51.9
h. Radio.....		—	—	—	10.2	95.9
i. Television set.....		40.3	—	60.5	71.6	38.6
j. Telephone.....		—	—	—	66.2	69.1
k. Sewing machine.....		69.2	—	88.7	91.5	66.5
l. Electricity.....		—	—	—	—	93.4

Table 43

CANADA: PROSPECTS FOR EXPENDITURE ON HOUSEHOLD DURABLES, INCLUDING FURNITURE

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Aggregate personal expenditure in constant (1949) \$	% of personal expenditure on furniture	% of personal expenditure on household appliances, radio and TV sets	Expenditure in (1949) constant dollars (millions)	Expenditure in (1949) constant \$	Expenditure per household in 1949	Aggregate personal expenditure	Expenditure on household appliances	Expenditure on furniture	Expenditure on household appliances
1926-29.....	1.60	2.01	94.8	118.7	45.3	56.8	44.1	43.5	32.4
1952-55.....	1.63	2.74	218.1	365.9	—	—	100.0	100.0	100.0
1952.....	1.67	2.45	207.5	304.2	—	—	92.8	95.1	83.1
1953.....	1.63	2.65	214.7	348.7	—	—	98.3	98.4	95.3
1954.....	1.57	2.82	213.5	384.3	—	—	101.8	97.9	105.0
1955.....	1.65	2.98	236.6	426.2	63.5	114.4	107.1	108.5	116.5
1965.....	1.65	3.14	351.5	668.8	73.0	138.9	159.4	161.2	182.8
1970.....	1.65	3.37	443.9	906.5	81.0	165.3	201.3	203.5	247.7
1975.....	1.65	3.59	551.1	1,199.0	88.0	191.5	249.9	252.7	327.7
1980.....	1.65	3.80	686.4	1,580.8	96.3	221.8	311.2	314.7	432.0

SOURCE: See Appendix C.

ment demands will develop. It also assumes that types of appliances which are not now commonly in use will come into broad use during the next three decades.

A forecast of expenditures on consumer durable household equipment was set out in Table 43. This forecast is based on the assumption that the proportion of personal expenditure which is devoted to durables will increase from the 1952-55 levels of approximately 2.74% (1955=2.98%) to the level of 3.80% by 1980. In turn, this assumption is based on an expectation that the rate of increase in the future will be approximately the same as it was between the late 1920's and the present time. On this basis it is expected that the average annual expenditure per household (in 1949 dollars) on household appliances and radio and TV equipment will increase from approximately \$115 in 1955 to about \$220 by 1980. In the aggregate this means that the total market for household appliances and radio equipment will be more than 425% of average 1952-55 levels by 1980. It is expected that the rate of growth in the number of households will be abnormally low in the decade between 1955 and 1965 and thus the rate of growth in the demand for durables. Inasmuch as the rate of growth of households of the labour force and of disposable income are closely related, we do not need to make further adjustment to our five-year forecasts. In other words, the forecast of G.N.P. and disposable income makes allowance for different growth rates in the number of households.

Table 43 also includes a preliminary forecast of expenditure on furniture. This is based on an assumption that a constant percentage of total expenditure will be made on such items; the rate being 1.65% of total personal expenditure. Historically, there has been no significant increase in the proportion of consumer expenditure devoted to furniture in Canada. Furniture does not seem to have caught the imagination of Canadians to the same extent as have durable appliances. This may be partly because of the unimaginative design of most Canadian furniture.

VIII. Household Operations, Other Than Furniture and Household Appliances

(a) Trends

In recent years, household operation costs, (including the purchase of furniture and household appliances) have comprised about one-eighth of consumer spending; this is a slightly smaller proportion than the average between 1926 and 1929 (13.6%). Canadians typically spend a little smaller proportion of their budgets on household operation than do Americans, who devote about 14% of their budgets to this category at the present time. The historical American experience is similar to that in Canada, in the sense that the expenses of household operation account for smaller proportions of consumer budgets in the United States now than they did three decades ago.

Outlays on household operation involve a wide variety of goods and services, including fuel, electricity, gas and telephone, household cleaning supplies, insurance, furniture and appliance repair, domestic service and the purchase of furnishings, furniture and appliances. Because of widespread public interest in furniture and household appliances, these groups have been dealt with in a separate section of this chapter; the remainder of the items are considered here. The absolute size and relative importance of the main groups of items are shown in Table 44. Fuel, electricity, gas and telephone service might usefully be called built-in services, in the sense that the facilities through which these items are used are a part of the housing structure. Fuel accounts for about one-third of the household operation group being considered here, and a little more than 3% of total personal expenditure. Electricity, gas and telephone service account for about another 25% of the group and about 2.2% of total personal expenditure at the present time. There has been very little change in the proportion of the consumer budget devoted to fuel during the last three decades, but the proportion devoted to electricity, gas and telephone service has increased by 80%. Household supplies, repairs to furniture and appliances, the net cost of insurance and moving expenses might usefully be treated as a package of maintenance expense of movable property. This package accounts for about the same proportion of our household operation group between 1952 and 1955, and between 1926 and 1929, but a smaller proportion of the total consumer budget.

The outstanding example of an item of household operation which has decreased in importance during the last three decades is domestic service; this item accounts for less than 0.4% of the Canadian consumer budget at the present time, compared with 2.4% between 1926 and 1929. A similar decline has taken place in the United States, but the American use of domestic service is larger than in Canada at the present time. This is probably to be explained by the difference in the proportion of the non-white populations in the two countries.

The other main items included in this section are household furnishings. This group comprises goods such as crockery, cutlery, glassware, curtains and floor coverings, and towels and bedding. The group accounts for about 1.33% of the average Canadian consumer budget at the present time, a proportion which is almost the same as is recorded for 1926 to 1929.

(b) Comments on the Trends in Household Operation Expenses

Fuel, gas and electricity, telephone

Fuel accounts for about as large a proportion of total personal expenditure now as it did three decades ago. This is somewhat surprising as the per capita volume of household fuel consumption would not be expected to increase substantially. Indeed, data developed in the study of Canadian energy prospects indicate that per capita consumption of fuel, measured in

B.t.u.'s. was slightly smaller in 1953 than in 1929. The paradox is easily resolved as there has been a significant increase in the price of fuels relative to the general level of consumer goods and services, and there have been substantial shifts from use of the less expensive to more expensive forms of household fuel. (See Table 46.)

Three decades ago, almost 80% of Canadian fuel consumption consisted of coal and wood. (See Table 46.) These items were used for space heating, for a large part of the cooking (particularly in rural areas) and water heating. Census data indicate that electric and gas ranges accounted for only 40% of the household cooking equipment in 1941. The long-run trend has been for a very rapid decline in the per capita consumption of fuelwood (partly because of the shift of the population from rural to urban areas) and almost as rapid a decline in the per capita consumption of coal for household fuel. Petroleum has become the most important source of fuel for space heating. Electricity has become a much more important source of energy for cooking and for water heating. These changes in the source of household energy have taken place even though they have usually increased the cost of heating and cooking. The important qualitative factor has been convenience, for which Canadians are apparently more and more prepared to pay the comparatively modest premiums required.

Natural gas is now becoming an important source of energy for residential as well as for other purposes. Unlike coal and oil, its use is not so much restricted to space heating. Those areas of Canada which are easily accessible to the sources of gas supply, especially the city of Edmonton, have already swung sharply to the use of gas, which provides virtually all energy requirements at a fraction of the cost of energy in eastern Canadian cities. The United States trend is also helpful in this instance. In that country, almost every second home uses natural gas, and it now comprises one-quarter of all the household use of energy. It is particularly important in heating and cooking, though its use is extended to the operation of most appliances. Its low price has put it on a competitive basis with oil, as it is an equally convenient space heating fuel and it has been cheaper than electricity in water heating and cooking.

In Canada at the present time, electricity is used widely for light, for cooking and water heating, and for the running of such motor equipment as refrigerators, washing machines and vacuum cleaners. Electricity is not generally employed in space heating, because it is very expensive in such uses. In cooking and water heating, electricity is quite expensive, but it has a convenience rivalled only by gas. Electricity is a comparatively cheap way to drive motors. During the last 30 years, there has been a phenomenal growth in the household use of electrical energy in Canada, partly because cheap gas has not been available, partly because of the relative cheapness of electricity in Canada compared with other countries, partly because of its great convenience and partly because of special efforts to make electricity

available to almost all homes. Between 1941 and 1955, the proportion of homes equipped with electricity has increased from 69.2% to 93.3%, the proportion of the households with electric or gas ranges has increased from 40% to 63%, and the proportion of households with mechanical refrigeration has increased from 21% to 76% (see Table 49). In view of the very rapid rise in the household use of electricity it may be surprising that the percentage of consumer expenditures (measured in current dollars) used in the purchase of electric power has not increased very greatly; the increase was from 0.74% of personal expenditure between 1926-29 to 0.99% between 1952 and 1955. The explanation is easy to discover in the declining cost of electric power compared with the general level of prices of consumer goods and services. The index of prices of all consumer goods almost doubled between 1939 and 1952, whereas electricity rates were below their 1939 levels. (See Tables 47 and 48.) Measured in constant (1949) prices, the proportion of total consumer expenditures devoted to the purchase of electricity increased from 0.38% between 1926-29 to 1.00% between 1952-55.

Telephone service is the only other important built-in service. The premium placed on speed in business communications has made telephone service a modern necessity. Perhaps so far as consumers are concerned, the telephone offers a means for achieving a delicate compromise between man's desires for privacy and sociability. In any case, the only limit to expansion of effective demand for service seems to have been its availability. The number of Canadian homes having telephones has increased from one million in 1941 to 2.7 million in 1955. This means a rise in percentage from 40% to 70%. While the rise in rates has not been as great as that for fuels or that for consumer goods generally³¹, increases in the prices of telephone service together with increased availability of service have brought about a substantial rise in the share of consumer outlays devoted to this service.

Household supplies, maintenance and insurance of movables, and moving expense

These items include many of the minor elements of household operation like soap, wax, brooms, mops, furniture and appliance repair, items which individually account for very small proportions of the consumer budget. For most of these items, the general impression is that the per capita consumption has not increased, nor will it increase, substantially. There are two exceptions. Net outlays on theft insurance and personal property insurance have grown rapidly, probably because of the realization by consumers that they now have large investments in movable household capital,

³¹ Between 1939 and 1952, telephone service rose about one-third in price, while fuels and light together were up 50%, and as indicated, consumer goods as a whole doubled in price.

investments worth worrying about. While the proportion of expenditures on repair of household appliances has not increased substantially during the past three decades, Canadians are in the early stages of increased use of such complicated household equipment as television sets and automatic laundry equipment. The full effect of these recent developments has not yet fallen on the repair outlays.

Domestic service

The decline in outlays for household help has been marked. In 1939, close to one-sixth of household operation costs consisted in payments for domestic service. In recent years only 3% of household operation expenses were in this section, and only 0.38% of total personal expenditure. The decline may be explained by two important trends in the North American economy — the coming of almost automatic household equipment and the rise in the wages of labour. Both of these are related in turn to the high and rising standard of living which has been made possible by the kind and quantity of resources available on this continent and the labour-saving techniques developed here to use them. For the years before 1949, Canadian figures are not available to indicate the change in price of domestic service which has occurred. United States domestic service wage rates have risen to about three and one-half times their 1935 levels, much more than the cost of other services and goods. There are several reasons why this rise may be somewhat overstated, especially for Canada.

1. 1935 was a depression year and with low levels of employment, rates on domestic service were likely to be unusually low.
2. It is very difficult to measure domestic service outlays, because of payments in kind. There has been some change toward *per diem* service with the result that less payment in kind is now involved and to the extent that this factor was inadequately measured in 1935, domestic service rates were more biased downward in that year.
3. Canadian demand for domestic service may be even more price elastic than American because of the lower standard of living. In any case, Canadian like American expenditure on domestic service has declined sharply partly as a result of the relative expensiveness of domestic service.

The advent of push-button kitchens and thermostatically controlled furnaces has also played a part in reducing the use of domestic service, though the increase in expenditure in these directions has not matched the decline in the percentage on household service. This may be explained in part by the removal of some services, *e.g.* food preparation, from home to factory.

Finally a statistical note. Ferber³² notes that Canadian figures show a lower percentage devoted to domestic service outlays than for any other country (0.4% of consumer expenditure compared with 1.3% for the U.S. in 1953). This might be explained by the fact that we fall between the income effect which keeps American domestic service up and substitution and historical influences which make it important in Europe, but it might also be explained in part by methods used in measuring this service and, in the United States, by the higher percentage of the non-white population³³. Also we should note that in both the United States and in Canada there is a considerable outlay for part-time household help which does not get into the official statistics.

(c) *Prospects for Expenditure on Household Operation, Other Than Furniture and Household Appliances*

Let us turn to the prospects for expenditure on household operation, other than the purchase of furniture and household appliances. In this area, our basis for judgment is even more limited than for many other segments of consumer expenditure. We expect that the household operation group being discussed in this section, will account for about the same proportion of total personal expenditure in the future, as during recent years, *i.e.*, about 8.3% of total expenditure in constant (1949) dollars. The implied expenditures are set out in Table 51, and the basis of the judgment is set out below.

Fuel

The per capita consumption of fuel, measured in B.t.u.'s, is not expected to increase significantly. Thus, if expenditure on fuel increased at the rate of growth in energy consumption measured in B.t.u.'s, this category of expenditure would decline considerably as a proportion of the total personal expenditure. While there is still an opportunity for shifts from less convenient to more convenient (and usually from cheaper to more expensive) forms of fuel consumption in Canada, these shifts have already gone quite far. In the future, the most important prospective shift is from one convenient but relatively expensive fuel (oil), to another convenient and slightly less expensive fuel (natural gas). Further, while some additional relative shifts of the population from rural to urban areas are expected, and thus a shift from cheap wood (in the sense of cash outlays) to more expensive forms of fuel, Canada has already experienced the bulk of such shifts. Therefore, while the expenditure on household fuel measured in 1949 prices

³² R. Ferber, "Expenditures for Services in the United States" *Conference on Consumption and Economic Development*, New York, The National Bureau of Economic Research, 1955.

³³ A projection of the trend between 1931 and 1941 census results is employed by D.B.S. As domestic services dropped during the war, a downward bias exists. This bias will be corrected when 1951 census returns are used as a basis for adjustment, preliminary study of the 1951 census figures confirms these impressions.

would be expected to increase more rapidly than the Canadian population in the future, the expenditure is unlikely to increase as rapidly as Gross National Expenditure or aggregate personal expenditure on consumer goods and services.

Electricity and gas

For some time, the combined Canadian expenditure on electricity and gas (mainly for cooking and water heating) has been increasing rapidly when measured in constant prices, though not when measured in current prices. The explanation of this difference has been the long-run relative decline in the price of electricity. Future expenditures on gas (other than for space heating) and on electricity are subject to a mixture of influences. Our judgment is that such expenditures will continue to increase, though at a less rapid rate than in the past. Canada has already reached a high level of household electrification, a factor which would make the future growth in the demand for electricity less rapid than in the past. The use of energy per serviced household, other than for space heating, may reasonably be expected to increase no less rapidly than in the past. Electricity will undoubtedly be somewhat more expensive in the future than it has been in the past, a factor tending to lead to a more rapid increase in expenditure. On the other hand, natural gas will certainly produce a partially counterbalancing effect; it is cheaper to produce and as population grows, its distribution costs will decline. In heating processes, natural gas is a good deal cheaper source of energy than is electricity.

Telephone

The proportion of total expenditure on personal goods and services devoted to telephone service will probably be about the same in the future as at the present time. While a large proportion of Canadian households already have telephones (almost 70% in 1955) further increases in the proportion are likely to take place in the future. Also, in the past, the average expenditure per household telephone (measured in constant dollars) has increased substantially (an estimated 27% between 1941 and 1955 compared with an increase of 42% in per capita disposable income). Further increases in the expenditure per installed household telephone will take place in the future, particularly for long distance calls. These two factors together suggest that per capita personal expenditure on telephone service will probably increase proportionately with total per capita personal expenditure.

Household supplies, maintenance and insurance of furniture and appliances

This group of items is also expected to account for roughly the same proportion of total personal expenditure in the future as at present, about 1.3% of total personal expenditure, though the composition of the group is expected to change. Expenditures on soap and cleaning supplies, and the

minor apparatus of housework are expected to increase less rapidly than total personal expenditure. This has been the record in the past. However, largely because of the more complicated nature of many of the household durable goods, as well as because the average household holdings of such equipment are expected to increase rapidly, the proportion of total personal expenditure devoted to the repair and insurance of such items is expected to increase substantially. In addition, people are acquiring increased holdings of such portable equipment of a durable nature as sporting equipment, boats, outboard motors, power lawn mowers and so on, which require maintenance and are worth insuring against theft, loss and fire.

Domestic service

Judged by the national accounts data, Canadians now spend a very small fraction of their incomes on domestic service, very much smaller proportions than three decades ago. (A substantial unrecorded expenditure for part-time help undoubtedly takes place.) It is impossible for this group to decline as rapidly in the future as in the past, on grounds of the arithmetic alone; the expenditure could not fall below zero. Quite apart from this, Canadians must now be rather close to the lowest possible level of this type of expenditure. A certain minimum demand for household help during illness, by the well-to-do and as part of personal, business and government entertainment will always exist. It would not be surprising to find somewhat larger proportions of total personal expenditure devoted to this service in the future.

Home furnishings

Home furnishings, like furniture, have not caught the fancy of Canadians to the same degree as durable household appliances, radio and television equipment. In the past, the proportion of total personal expenditure devoted to home furnishings has been roughly constant and the group has been so projected into the future.

Table 44

CANADA: EXPENDITURE ON HOUSEHOLD OPERATION OTHER THAN PURCHASE OF FURNITURE AND APPLIANCES

	Expenditure in current \$ (millions)		% of total personal expen. in current \$		Expenditure in 1952-55 as % of expen. 1926-29, both in current \$	Expenditure in constant 1949 \$ (millions)		% of total personal expenditure in 1949 \$		Expenditure in 1952-55 as % of 1926-29 both in constant \$
	annual average 1926-29	annual average 1952-55	average 1926-29	average 1952-55		annual average 1926-29	annual average 1952-55	average 1926-29	average 1952-55	
1. Fuel, incl. estimated landlord's fuel costs.....	129.7	492.6	3.10	3.11	379.8	193.7	428.2	3.28	3.21	221.1
2. Electricity	30.8	153.2	0.73	0.97	497.4	22.4	133.9	0.38	1.00	597.8
3. Gas.....	19.3	42.5	0.46	0.27	220.2	19.7	38.1	0.33	0.29	193.4
4. Telephone.....	30.5	167.2	0.73	1.06	548.2	36.4	130.1	0.62	0.97	357.4
5. Household supplies, maintenance and insurance of furniture and appliances, and moving expense.....	60.2	208.2	1.44	1.32	345.8	95.2	173.1	1.61	1.30	181.8
6. Domestic service.....	71.1	61.4	1.70	0.39	86.4	142.7	50.6	2.42	0.38	35.5
7. Home furnishings.....	56.7	215.2	1.35	1.36	379.5	79.8	182.9	1.35	1.37	229.2
8. Total—group.....	398.3	1,340.3	9.51	8.48	336.5	589.9	1,136.9	10.00	8.51	192.7
9. Total personal expenditure.....	4,188.1	15,804.1	—	—	374.2	5,896.6	13,396.0	—	—	226.7

SOURCE: Computed from D.B.S. *National Accounts, Income and Expenditure*, various issues, and from data made available by the National Income Section of D.B.S.

Table 45

HOME EXPENSES AS A PERCENTAGE OF ALL CONSUMER EXPENSES, CANADA AND UNITED STATES

	Rent	Other ^a	All housing and household operation
Canada 1930.....	15.7	12.6	28.3
1953.....	12.6	12.5	25.1
U.S. 1930.....	15.4	15.2	30.6
1953.....	11.8	14.1	25.9

^a Household operation.

NOTE: The coverage and estimates differ slightly from the revised Canadian data used in this study.

SOURCE: Kravis, I. B., *International and Intertemporal Comparisons of the Structure of Consumption*, National Bureau of Economic Research Inc., New York.

Table 46

RETAIL PRICES OF ALTERNATIVE ENERGY SOURCES
IN CANADA AND UNITED STATES*(not including distribution costs)**(in cents per million Btu. also U.S. consumption and Canadian and U.S. price indexes)*

	Coal		Petroleum	Natural Gas	Electricity
	Bituminous	Anthracite			
U. S. 1935-39.....	7.1	15.4	18.4	4.8	—
U. S. 1952.....	18.7	39.4	43.8	6.9	—
U. S. index 1952 ^a (1935-39 = 100)	209.0	219.0	195.0	105.0	92.0
Canadian index 1952..... (1939 = 100)	191.4		192.2	114.2	98.5
U. S. consumption 1929..... (in 10 ¹² B.t.u.)	312.6	127.6	37.4	37.8	58.0
1939.....	262.9	96.1	102.0	53.5	88.4
1947.....	365.3	83.9	186.4	114.2	164.5

^a Index is not based upon figures here shown, but does include distribution costs. As it comes from another source, it cannot be reconciled directly.SOURCE: *Gas Facts* (obtained from S. W. Clarkson, Dept. of Trade and Commerce); D.B.S. Labour and Prices Section.

Table 47

HOUSEHOLD CONSUMPTION OF ENERGY

	1926	1929	1939	1948	1949	1953
Consumption of energy (billions of Btu.)						
1. Coal.....	862.9	942.6	801.7	1,260.8	1,166.8	1,017.2
2. Petroleum.....	124.7	220.0	285.3	616.9	650.4	1,113.3
3. Water power.....	38.1	58.6	97.5	157.5	168.9	217.4
4. Natural gas.....	20.3	29.9	37.1	62.0	64.8	112.3
5. Wood.....	200.4	209.3	203.0	211.4	207.0	183.6
6. Total.....	1,246.3	1,460.5	1,424.7	2,308.5	2,257.8	2,643.8
7. Total excluding water power.....	1,208.2	1,401.9	1,327.2	2,151.0	2,088.9	2,426.4
Per capita consumption of energy						
7. Coal.....	91.3	94.0	71.1	98.3	86.8	68.8
8. Petroleum.....	13.2	5.8	8.6	4.8	4.8	7.5
9. Water power.....	4.0	3.0	3.3	1.3	1.3	1.5
10. Natural gas.....	2.2	2.1	1.8	4.8	4.8	7.6
11. Wood.....	21.2	15.5	18.0	16.5	15.4	12.4
12. Total.....	131.9	145.6	126.4	180.0	167.9	178.9
13. Total excluding water power.....	127.9	142.6	123.1	178.7	166.6	177.4
Indexes of total consumption of energy 1926 = 100						
14. Coal.....	100.0	109.2	92.9	146.1	135.2	117.9
15. Petroleum.....	100.0	176.4	228.8	494.7	521.5	908.8
16. Water power.....	100.0	153.8	255.9	413.3	443.3	570.6
17. Natural gas.....	100.0	147.3	182.8	305.4	319.2	553.2
18. Wood.....	100.0	104.4	101.3	105.5	103.3	91.6
19. Total.....	100.0	117.2	114.3	185.2	181.1	212.1
20. Total excluding water power.....	100.0	120.8	117.9	191.0	186.9	218.8

SOT RCE, John Davis, *Canadian Energy Prospects*, Ottawa, 1957. A study prepared for the Commission.

Table 48

DOMESTIC ELECTRICITY CONSUMPTION IN CANADA

Year	Consumption 000 k.w.h.	Consumption per customer	Average annual charge per customer	Average charge per k.w.h.
1930.....	1,490	1,131	\$25.90	2.29
1939.....	2,311	1,423	26.97	1.90
1947.....	4,383	1,951	31.28	1.60
1948.....	4,984	2,078	33.32	1.60
1952.....	8,741	2,809	46.48	1.65
1953.....	9,878	3,008	51.25	1.70

SOURCE: *Canada Year Book*, various issues.

Table 49

PERCENTAGE OF CANADIAN OCCUPIED DWELLINGS
CONTAINING SPECIFIED ELECTRICAL EQUIPMENT, SELECTED YEARS

	1941	1951	1953
No. of homes electrified.....	69.2	88.7	93.3
Mechanical refrigerator.....	47.6	66.3	75.9
Power washing machines.....	n.a.	73.8	82.5
Electric vacuum cleaner.....	24.3	42.2	51.9
Radio.....	77.9	93.8	95.8
Television.....	none	n.a.	38.6

SOURCE: D.B.S. *Household Facilities and Equipment*, September, 1953 and Census of Canada, 1941 and 1951.

Table 50

PRICE INDEXES OF VARIOUS ITEMS OF HOUSEHOLD EQUIPMENT
AND SUPPLIES, 1939 AND 1952

(1949=100)

	1939	1952
All home furnishings.....	60.5	118.1
Furniture.....	53.4	115.6
Appliances.....	n.a.	115.7
Floor covering.....	65.6	127.9
Textiles (household).....	49.2	117.3
Utensils.....	54.9	118.9
Home supplies.....	59.9	112.4

SOURCE: D.B.S. *Prices and Price Indexes*.

Table 51

PROSPECTS FOR* EXPENDITURE ON HOUSEHOLD OPERATION,
OTHER THAN THE PURCHASE OF FURNITURE AND APPLIANCES

	(1)	(2)	(3)	(4)	(5)
	% of total personal expenditure in constant (1949) \$		Expenditure in 1949 \$		
	1952-55	1980	1952-55	1980	1980 as % of 1952-55
Fuel.....	3.21	3.00	428.2	1,248	291
Electricity and gas.....	1.29	1.50	172.0	624	363
Telephone.....	0.97	0.97	130.1	404	311
Household supplies, maintenance, moving and insurance of furniture and appliances.....	1.30	1.30	173.1	540	312
Domestic services.....	0.38	0.38	50.6	158	312
Home furnishings.....	1.37	1.37	182.9	570	311
Total household operation, excluding purchase of furniture and appliances.....	8.51	8.52	11,369	3,544	312
Total personal expenditures.....	—	—	133,660	41,600	311

SOURCE: Columns (1) and (3): See Table 44.
Column (2): See text.

IX. *Personal Expenditure on Transportation*(a) *Introduction*

Personal expenditure on transportation includes the purchase and operation of private automobiles and expenditures on a wide variety of transportation services ranging from the use of streetcars to aircraft. The class of expenditures as a whole has accounted for a large and increasing fraction of the personal budgets of Canadians, as shown in Table 52. The table also illustrates tremendous growth in the expenditure on automobiles, compared with purchased transportation services. All forms of personal transportation expenditure are dealt with in this section of the study. Part (b) deals with the purchase of automobiles; Part (c) with the expenses of operating automobiles, and Part (d) deals with the various forms of purchased transportation services.

Table 52

CANADA: PERSONAL EXPENDITURE ON TRANSPORTATION,
SELECTED YEARS

Item	Average expenditure in millions of Current dollars Constant (1949) dollars			
	1926-29	1952-55	1926-29	1952-55
1. Purchase and operation of automobiles.	235.9	1,619.3	313.1	1,427.4
2. Purchased transportation services.....	132.2	322.1	140.9	256.0
3. Total personal expenditure on transportation.....	368.1	1,941.4	554.0	1,683.0
4. Total personal expenditure.....	4,188.1	15,804.1	5,896.6	13,396.0
Percent of total personal expenditure				
5. Purchase and operation of automobiles.	5.54%	10.25%	7.00%	10.66%
6. Purchased transportation services.....	3.16	2.04	2.39	1.91
7. Total personal expenditure on transportation.....	8.70	12.29	9.39	12.57

SOURCE: D.B.S., *National Accounts, Income and Expenditure*, various issues, and background data made available by the National Income Section of D.B.S.

*(b) Personal Purchases of Automobiles**Introduction and summary of the prospects*

One of the most important changes which has taken place in the distribution of personal expenditure during the last half century has been the growth in the proportion devoted to the purchase, maintenance and operation of automobiles. In Canada, between 1952 and 1955, the purchase, maintenance and operation of automobiles by households involved an average expenditure of more than \$1,600 million a year, measured in current dollars, more than 10% of total personal expenditure. In contrast, between 1926 and 1929, the average personal expenditure for the purchase and operation of automobiles was about \$235 million, a little less than 6% of total personal expenditure, both measured in current dollars. When the measurement is made in constant (1949) dollars, the increase in the proportion of personal expenditure devoted to automobiles and their operation is slightly smaller than indicated by the current dollar data; on the average, between 1926 and 1929, these items accounted for about 7.0% of total personal expenditure compared with an average of 10.7% between 1952 and 1955. At the end of 1955 Canadians had about 185 automobiles per 1,000 people, or about 310 automobiles per 1,000 adults, or 800 automobiles per 1,000 homes. This represents a very rapid increase in the density of the automobile population during the last 30 years. For example, in 1929, Canadians held approximately 100 automobiles per thousand people.

Canadian per capita holdings of automobiles are about 60% of the United States holdings at the present time. Part of the difference is attributable to the lower per capita real incomes in Canada but it is difficult to believe that this factor completely explains the difference in automobile density between the two countries. It is known that the prices of automobiles are much higher in Canada than in the United States, partly because of the Canadian tariff and partly because of the higher level of commodity taxation being imposed on automobile sales in Canada. At the present time, suggested retail prices of automobiles in Canada are approximately 25% higher than those in the United States, though the actual difference may be somewhat smaller because of the discount arrangements.

In this section the concern is with the volume and expenditure on acquisition of automobiles attributable to the personal sector of the economy. There are a number of difficulties in analyzing the personal expenditure on acquisition of automobiles. The total sales of automobiles in Canada are known, but these sales are made to businesses and to governments as well as to persons. It is quite difficult to estimate that portion of the stock of automobiles which should be charged to the personal account. In Canada's national accounts about 30% of the retail sales of new automobiles are allocated to the non-personal sectors³⁴. However, many of the automobiles

³⁴ This refers to the preliminary revision of the *National Accounts*.

acquired by governments and by businesses do not remain in those uses throughout their whole lives; after some years or miles they tend to be traded in on new vehicles, the used vehicle then flowing to the personal sector of the economy. In the revision of Canada's national accounts which is currently under way, a new method of estimating the personal expenditure on acquisition of automobiles is being introduced, the method making estimates of the net acquisition of used cars by the personal sector. A third source of some difficulty in dealing with the personal expenditure on acquisition of cars, particularly when the interest is in short-run fluctuations in expenditure, centres around the inventories of new and used car dealers. Widely varying proportions of the stock of automobiles can be held in inventory at any point of time.

Another source of difficulty in analyzing the trends in expenditure on automobiles is the lack of adequate data on the age distribution of the automobile population and on the life expectancy of automobiles in various kinds of uses. The replacement demand for automobiles is of perhaps even greater significance than net additions to the stock. Adequate data are not available on age distribution and life expectancy.

A considerable number of forecasts of the demand for automobiles in Canada have been made available to the Commission. A study of the automobile industry³⁵ was carried out for the Commission as part of the group of studies on secondary industry. Imperial Oil, B.A. Oil, The Rubber Association of Canada, Ford Motor Company and others have set down their views on the prospects for the demand for automobiles. These views differ widely as will be seen from Table 55, partly because of differences in assumption about the general growth in the economy. On the basis of the various submissions and the study prepared for the Commission, and partly as an independent effort, we have attempted to arrive at our own judgment about the prospects for sales of and expenditure on automobiles to the personal sector. Our judgment might be summarized in this way: the growth in the stock of automobiles will be a little less rapid than in G.N.P., and the proportion of personal expenditure devoted to the acquisition of automobiles will fall a little from the present levels. The precise forecasts and the underpinning for these judgments are stated later.

Trends in expenditure on and demand for autos

The gross stock of passenger automobiles in Canada has increased from a little more than 1,000,000 in 1929 to almost 3,000,000 by the end of 1955, an increase of 185% between these two years compared with an increase in the population of 57% and an increase in the number of adults of 62%. (See Table 55.) Clearly the density of passenger automobiles in Canada has increased enormously.

³⁵ Sun Life Assurance Company of Canada, *The Canadian Automotive Industry*, Ottawa, 1957.

The growth in the stock of passenger automobiles is closely related to the growth in income. One of the neatest illustrations of this relationship was contained in an article in the monthly review of the Bank of Nova Scotia for August, 1955. The article compared the growth in the auto densities and income in Canada and the United States. A chart illustrated the strong long-run relationship between the growth in income per capita and the growth in the number of automobiles per capita in the two countries. It also showed that the per capita holdings of automobiles in Canada now are about equivalent to those in the United States in 1935 and are somewhat below those in the United States in 1939. However, the explanation of the lower Canadian per capita holdings of automobiles cannot be entirely based on differences in income. In Table 54, a comparison is made of the per capita holdings of automobiles and per capita incomes in Canada and the United States. These data show quite clearly that per capita Canadian holdings of automobiles have never exceeded 60% of the American levels whereas Canadian incomes are almost 70% of American levels. Casual observations would also suggest that the average quality of the Canadian stock of automobiles is poorer than of the American stock. A substantial part of the difference which cannot be explained by income must be attributable to the higher relative prices of automobiles in Canada than in the United States. It is well known that, because of the Canadian tariff and because of the higher levels of commodity taxation imposed on automobiles, the relative price of automobiles is much higher in Canada than in the United States. The data in Table 54 also show that the gap between Canadian and American per capita holdings of automobiles is gradually closing. In 1929 the ratio of Canadian to American per capita holdings was 54%. In 1941 it was 50%. In 1954 the ratio was 60%. There does not appear to have been any marked change in the income differential between the two countries over the same period of time. This suggests that a continuing differential in income between the two countries does not preclude some substantial narrowing of the differentials in per capita holdings of automobiles in the future.

The next question concerns the relationship between the stock of automobiles and annual sales. Unfortunately the only source of data on the stock of automobiles is the vehicle registrations. Changes in registrations are influenced by variations in the proportion of the stock which are licensed in any year, as well as by net additions. Selected data on the registrations, domestic sales and apparent scrappage are set out in Table 53.

Sales of new automobiles depend in a proximate sense on the gross additions to the stock of automobiles and on replacement of those cars which form part of the stock at any point of time. Between 1926 and 1955 the net additions to the Canadian stock of passenger automobiles have been about 2.2 million cars. The total domestic sales between these years would amount to about 4.2 million cars so that replacements have amounted to something of the order of two million automobiles. Thus, during the

last three decades, the replacement side of the automobile market has been almost as important as the net additions to stock. In the future it appears likely that the replacement side of the market will become more important than net additions to stock.

The scrappage of automobiles depends on the age distribution of the stock, on the type of use to which the automobiles are subjected, and a mixture of technical and economic considerations (depreciation, credit conditions) which vary from time to time. If a large proportion of the stock is of a relatively young age, other factors being given, the scrappage rate in the immediate future would be smaller than if a small proportion of the stock is of young age. This factor has been cited by some writers (for example, K. E. Boulding)³⁶ as the basis for expectations of replacement cycles in the demand for automobiles, with a low level of replacement expected in 1959 and 1960. The life table or life expectancy of an automobile depends on the use to which it is put. The indications are that the life table for automobiles which serve commercial purposes through part of their life is probably quite a bit shorter in years though not necessarily in miles, than it is for personal autos. If the relative importance of personal and commercial use of the automobile population changes, so will average life expectancy per vehicle for the whole population, even if there was no change in the life expectancy of vehicles in any particular use. The life expectancy for an automobile in a particular use is not a rigid thing. In the first place, it is based on a mixture of technical and economic considerations; cars will be junked more rapidly when incomes are high and when used car prices are low than when the reverse holds true. Certainly there can be substantial year to year variations in the scrappage from that which is indicated by a smooth average survival curve. It is always possible for replacement to be postponed or accelerated by a year or so depending upon income and credit conditions.

Canadian data on scrappage are really quite unsatisfactory as are the data on the age structure of the population and indications of the life expectancy of automobiles. The apparent scrappage is arrived at by deducting the net increase in vehicle registrations from the domestic sales of a particular year. For what the data are worth, they show that, in recent years scrappage would amount to about 5.5% of registrations. It is very difficult to know whether this is a normal position or not. The 5.5 percentage rate of scrappage is consistent with an average life expectancy of autos of about 14-14.5 years. Fragmentary evidence suggests that this is not an unreasonable figure for Canadian experience at the present time. American data indicate that the average life expectancy of an automobile is somewhat higher now than it was three decades ago, despite the much greater mileages per year which are put on the automobiles. The abnormally low rates of

³⁶ K. E. Boulding, "An Application of Population Analysis to the Automobile Population of The United States", *KYKLOS*, Vol. VIII, 1955.

scrappage during the war and the exceptionally young average age of the Canadian automobile population at the present time pose a difficult and uncertain problem for the immediate future. As the average age of the automobile stock is particularly low, one would ordinarily expect that the scrappage rate would also be low in the next few years and that replacement demands for automobiles would correspondingly be low.

Prospective demand for passenger automobiles

Probably nothing is needed less than one more forecast of the demand for passenger automobiles; the Commission has received many of them. However, these forecasts differ widely and a brief further excursion into the area may be helpful. (See Table 56.) In our judgment, the stock of passenger automobiles in Canada by 1980 will be somewhere between 8.4 million and 9.2 million vehicles, compared with a little less than three million at the present time. It is our judgment that the annual sales in 1980, consistent with this stock of automobiles would be between about 865 thousand and one million vehicles per year. This growth in demand for passenger automobiles implies a slightly smaller proportion of personal expenditure on such items in the future than has been experienced during the last four years.

As in the other forecasts of personal expenditure the speculation about the future demand for automobiles is based on assumptions of continued peacetime full employment circumstances, and on the average of the high and low G.N.E. projections for an assumed annual net immigration of 75,000 people. The first step in the procedure was to make a judgment about the probable future stock of automobiles in Canada. A high and low estimate has been included in our calculations, the high being based on an assumption that there will be one automobile for every 1.76 adults by 1980 and the low based on the assumption that there will be one automobile for each 1.93 adults. Adults have been defined as the population aged 20 and over. The maximum density implies that the Canadian per capita holdings of automobiles by 1980 will be more than 15% higher than the present American level while the low figure assumes that Canadians will have 6% to 8% more automobiles per capita in 1980 than the Americans now have. It has been assumed that between now and 1980 a more or less continuous increase in the ratio of automobiles to the adult population will take place, at gradually diminishing annual rates of growth. The implied densities of the automobile population are set out in Table 56. From the forecast of the adult population and the assumptions of maximum and minimum densities of automobiles per member of the adult population, an estimate is made of the maximum and minimum stock of automobiles in Canada during the next 25 years.

The growth in the gross stock of automobiles implies a set of annual new car sales for the net addition to the stock, what the trade sometimes

calls penetration sales. Putting aside economic fluctuations and random elements which influence the sales of automobiles in any particular year, the growth in the stock of automobiles implies net additions of 350 thousand vehicles a year in 1980 for the high stock estimates and 284 thousand vehicles a year for the low stock estimates.

To complete the forecast of sales of passenger automobiles an estimate of the replacement market is required. This turns out to be the most important and the most difficult part of forecasting automobile sales. It does appear clear that, under any reasonable assumption, replacement sales will become a much larger market than is provided by net additions to the stock of automobiles. The difficulty arises from the limited information on the life expectancy of the typical automobile. The procedure adopted here has been to make certain judgments about the average life expectancy of automobiles, to estimate the implied annual replacement sales as a percentage of stock of automobiles, assuming that the stock was constant, and that the average age distribution of the stock was not in some way curious or atypical. These scrappage rates have then been adjusted to allow for the expected growth in the stock of automobiles. (The question of unusual age distributions of the automobile stock has been put aside for the moment.) In 1952 the average life expectancy of automobiles in the United States was about 14 years. At the present time it is somewhat lower. Expectations are that the average life of automobiles in the United States will decline to about 10 years by 1980. The average life expectancy of automobiles in Canada has apparently been slightly higher than in the United States in the past, about 14.5 years compared with a little less than 14 at the present time. It has been our assumption that the average life of automobiles in Canada will decrease from 14.5 years at the present time to about 11.4 years by 1980. This expectation is based on the belief that the average annual mileage for automobiles will increase more rapidly than the increase in the durability of cars, on the judgment that an increasing proportion of the automobiles will have some commercial experience, and an expectation that some part of our higher standards of living will be taken out in the form of more rapid scrappage of automobiles. If the population of automobiles was fixed and there were no abnormal characteristics in the age distribution, this would imply the scrappage rate increasing from about 6.8% of the gross stock in 1955 to about 8.75% of the stock in 1980. However, as the stock of automobiles is expected to grow rapidly, the scrappage rate as a percentage of the current stock of automobiles will be substantially below these figures. The scrappage at any point of time reflects the stock of some years previous. To make an allowance for the growth in the automobile population it has been assumed that the average scrappage rate as a proportion of the stock of that year will increase from about an average of 5.34% between 1953 and 1955 to about 7% by 1980. In a quick piece of work on the prospects for automobiles, it is probably better

to proceed in this way than to apply the scrappage rates explicitly to the stock of automobiles of several years prior to the period being examined, because the latter procedure will impose replacement cycles on the data. Our procedure implies that the replacement market for new vehicles will increase from about 160 thousand vehicles a year in 1955 to about 640 thousand vehicles a year under the high estimate of the 1980 stock or 585 thousand vehicles a year under the low estimate of the stock.

In order to compare the expected rate of expenditure on automobiles with total personal expenditure it is necessary to convert the expected volume of sales to a value basis. What is required is a value of expenditure on automobiles in 1949 prices. However, it is not satisfactory to simply apply the average unit value in 1949 to the volume of automobiles produced in other years, as the average quality of automobiles demanded by Canadians has gradually improved. This improvement is expected to continue. Therefore, we took 1949 unit value, and adjusted this to 1955 quality on the basis of the existing data; we then assumed a further 10% increase in average value between 1955 and 1965 due to increased average quality and equipment, and a 15% increase between 1955 and 1980 on these accounts. Applying these unit values we obtained the estimated retail value of new automobile sales in Canada set out in Line 7 of Table 56.

The next problem is to adjust the total expenditure on new automobiles for the acquisition of automobiles by sectors other than the personal one, and to adjust the value of personal expenditure on autos for the net acquisition of used vehicles by the personal sector from other sectors. As in the revised national accounts, it has been assumed that 30% of the retail value of new car sales will be to sectors other than the personal one, yielding the estimated personal expenditure on new autos as shown in Line 8 of Table 56. On the other hand, there will be a reverse flow of used autos from the business and governmental sectors of the economy to the personal sector, as the latter ordinarily uses an automobile for only the first part of its effective life. A projection of this reverse flow is set out in Line 9. The net acquisition of used cars by the personal sector together with the purchase of new autos by that sector account for the total personal expenditure on new and used cars, *i.e.* Line 10, Table 56. Our general expectation is that the purchase of automobiles will account for somewhat smaller proportions of total personal expenditure in the future than in 1955 or on the average between 1952 and 1955. This is essentially because the rate of increase in the stock of automobiles is expected to be somewhat less rapid than the rate of increase in G.N.P. or personal expenditure.

Thus far, the problem of replacement cycles in the demand for automobiles has been neglected. Replacement cycles arise from abnormalities in the age distribution of the automobile stock. It is well known that the absence of automobile production during the war, together with the high

levels of sales since the war has given us an automobile population which is abnormally young at the present time. Various writers in the United States have explored the implications of this abnormal age distribution and have indicated a replacement cycle in automobiles with a trough of about 1959 and a peak in approximately 1965. The indications are that at the trough, the replacement of automobiles could be more than 15% below the average of the decade, while at the peak replacement could be a similar degree higher than the average for a decade. The effect of replacement cycles is primarily on the distribution of replacement over time rather than on the average level of replacement sales. We do not have sufficiently accurate knowledge of the age distribution and the life table of Canadian automobiles to predict the timing and amplitude of replacement cycle with any great accuracy; however it does seem clear that a time distribution of replacement sales, something like that discussed for the United States, may be expected. When the stock of prewar cars is close to zero (probably by mid-1958) we can expect some significant reduction in replacements for a few years. Thus it would not be surprising to find a replacement demand in 1958-59 and 1960 about 10% below that indicated in our forecast. By the same token it would not be surprising to find a replacement demand increasing more rapidly between 1960 and 1965 than is indicated in our forecast. We do not wish to place much confidence on the judgment of the specific timing and degree of fluctuation. It is important, however, to recognize the probability of some such replacement cycle. In the next few years it is going to be quite important to distinguish between normal growth in demand and the abnormal situation associated with replacement cycles and fluctuations in sales which are attributable to fluctuations in general levels of economic activities.

The forecasts of demand for automobiles which have been made here do not differ in important respects from those made in the automobile study which was prepared for the Commission; nor does our forecast differ markedly from a number of submissions made by automobile and petroleum companies to the Commission, when these forecasts are placed on a comparable basis as regards population and expected growth of the Canadian economy. Our estimates indicate that automobiles will account for significantly smaller proportions of total personal expenditure in 1980 than they did between 1952 and 1955. There is room for a considerable increase in the average quality of the automobile purchased without the total of personal expenditure exceeding the proportion which has been experienced in the last four years. Thus, while we would be prepared to assume that the average proportion of consumer expenditure in the future on the acquisition of automobiles might be as high as it has been during the last four years, we have strong reservations about views that automobiles will account for larger shares of the consumer budget in an average year of the future.

Table 53

CANADA: AUTOMOBILE POPULATION AND SALES—SELECTED DATA

	Item	Unit	1928	1929	1950	1951	1952	1953	1954	1955	1953 as % of 1928	1955 as % of 1929
1.	Autos registered.....	000	921	1,023	1,907	2,098	2,297	2,514	2,689	2,918	273	285
2.	Population.....	000	9,840	10,029	13,710	14,010	14,430	14,780	15,200	15,640	150	156
3.	Adult population, <i>i.e.</i> age 20 and over.....	000	5,670	5,810	8,550	8,700	8,920	9,080	9,270	9,430	160	162
4.	Cars per 1,000 population.....	cars	94	102	139	150	159	170	177	187	181	183
5.	Cars per 1,000 adults.....	cars	163	176	223	241	258	277	290	309	170	176
6.	Net addition to the stock of cars..	000	100	92	235	190	199	217	175	230	217	250
7.	Domestic sales of cars.....	000	182	177	325	276	292	359	311	387	197	218
8.	Apparent scrappage of cars.....	000	82	85	90	85	93	142	136	158	173	185
9.	Scrappage as % of stock at end of previous year.....	%	10.0	9.2	5.4	4.5	4.4	6.2	5.4	5.9	—	—
10.	Personal expenditure on new and used autos in constant (1949) dollars.....	\$ 1949 millions	310.5	274.9	596.7	665.5	811.3	771.6	970.0	261	353	
11.	Per capita personal expenditure on new and used autos in constant (1949) dollars.....	\$ 1949	31.6	27.4	—	42.5	46.1	54.8	50.8	62.0	173	226
12.	% of total personal expenditure on new and used autos.....	%	5.0	4.3	—	5.1	5.4	6.2	5.4	7.2	—	—

SOURCE: Lines 1 and 7: D.B.S., *The Motor Vehicle Industry*, annual report.Line 2: D.B.S., *Canadian Statistical Review*.

Line 3: D.B.S., Population Estimates, 1921-52, Reference Paper #40, Feb. 1953, and annual supplements since that time.

Line 6: Calculated from Line 1.

Line 8: Line 7 less Line 6.

Line 10: D.B.S., *National Accounts, Income and Expenditure*. Various issues and data made available by the National Income Section of D.B.S.

Table 54

CARS AND INCOME PER CAPITA, CANADA AND U.S.

Year	(1) Canada	(2) Cars per 100 population		(3) Canada as % of U.S.	(4) Per capita disposable income in 1949 \$		(6) Canada as % of U.S.
		Canada	U.S.		Canada	U.S.	
1926.....	7.8		16.4	47.6	587	—	
1929.....	10.2		18.9	54.0	636	901	70.6
1932.....	9.0		16.7	53.9	—	738	—
1941.....	11.1		22.2	50.0			
1945.....	9.6		18.5	51.9			
1946.....	10.1		20.0	50.5			
1947.....	10.9		21.3	51.1	895	1,230	72.8
1948.....	11.6		22.7	51.1	905	1,268	71.4
1949.....	12.5		24.4	51.2	870	1,261	69.0
1950.....	13.9		26.3	52.9	895	1,343	66.6
1951.....	14.9		27.8	53.6	913	1,355	67.4
1952.....	15.9		27.8	57.2	938	1,376	68.2
1953.....	16.9		28.6	59.0	965	1,409	68.5
1954.....	17.5		29.4	59.5	934	1,395	67.0
1955.....	18.8		31.5	59.7	986	1,456	67.7

SOURCE: The data on cars per capita in Canada and the United States are taken from *The Canadian Automotive Industry*. A study prepared for the Commission by the Sun Life Assurance Company of Canada.

The data on per capita disposable income in Canada are expressed in constant (1949) dollars. The current dollar estimates are taken from D.B.S., *National Accounts, Income and Expenditure*, various issues; these estimates are deflated by the implicit price index for personal expenditure on consumer goods and services.

The American incomes are expressed in constant (1949) U.S. dollars. The current dollar estimates of disposable income are taken from various national income editions of *Survey of Current Business*. The deflation procedure is the same as for Canada, using the U.S. implicit price index for personal expenditure on consumer goods and services.

Table 55

VARIOUS PROJECTIONS OF PASSENGER CAR REGISTRATIONS
AND SALES IN CANADA

	1955 actual	1960	1965	1980
A. Total registrations (unless otherwise specified); in thousands				
1. B.A. Oil Company.....	2,935	3,600	4,600	9,000
2. Imperial Oil Company (vehicles in use).....	2,640	3,475	n.a	7,100
3. Rubber Manufacturers' Association.....	2,935	3,726	4,838	9,054
4. Ford Motor Company of Canada.....	2,935	3,650	4,400	7,400
5. General Motors of Canada.....	2,935	n.a	4,700 ^a	n.a.
6. Sun Life Assurance Company of Canada, study of <i>The Canadian Automotive Industry</i> , prepared for the Commission.....	2,935	3,715	4,725	8,750
B. Annual sales; in thousands				
7. Ford Motor Company.....	387	n.a	n.a	785
8. Sun Life Assurance Company.....	387	380	460 ^c	870 ^d

^a In 1966.^b Annual average 1956-60.^c Annual average 1961-65.^d Annual average 1976-80.

Table 56

CANADA: PROJECTION OF PERSONAL EXPENDITURE ON AUTOMOBILES

Item	1955 Actual	1965			1980		
		High	Low	Middle	High	Low	Middle
1. Passenger cars per 1,000 adults.....	312	410	390	400	570	520	545
2. Passenger cars per 1,000 people.....	185	241	229	234	344	314	329
3. Total passenger cars registered (000).....	2,835	4,700	4,470	4,585	9,180	8,370	8,775
4. Annual net additions to stock of automobiles (000)	230	215	190	202	350	280	315
5. Replacement of stock, estimated annual average (000).....	166	280	265	273	640	585	612
6. Estimated annual sales (000).....	396	495	455	475	990	865	927
7. Estimated value in 1949 dollars, after allowances for higher "quality" of autos.....	—	1,360	1,250	1,305	2,850	2,490	2,670
8. Estimated personal expenditure on new autos in constant (1949) dollars, @ 70% of Line 7.....	689	950	875	912	1,995	1,745	1,870
9. Estimated net purchase of used cars by personal sector.....	347	205	185	195	340	300	320
10. Estimated total personal expenditure on new and used cars.....	1,036	1,155	1,060	1,107	2,335	2,045	2,190
11. Total personal expenditure.....	14,337	—	21,300	—	41,600	—	—
12. Net personal expenditure on new and used autos as % of total personal expenditure.....	7.2	5.4	5.0	5.2	5.6	5.0	5.4

SOURCE: See Appendix C, for basis of these estimates.

*(c) Personal Expenditure on Auto Operation**Introduction*

Costs of operation of automobiles are defined in this context as expenditures on gasoline, oil and grease, automobile parts and accessories, automobile repair charges, automobile insurance (administrative cost) and bridge, tunnel and ferry tolls. While there is some difficulty in estimating these expenditures, and particularly in estimating that portion which is chargeable to the personal sector, there is no doubt that automobile operating expenses account for substantially larger proportions of personal budgets now than they did three decades ago. It is estimated that, in 1955, such expenses accounted for 4.66% of consumer budgets, measured in current dollars, and 5.20% measured in 1949 prices. It is our expectation that these items will account for even greater proportions of consumer expenditure in the future. The measurement and trends in such expenditures are set out in the next paragraphs, and the prospects are examined at the end of this section.

Trends in personal expenditure on auto operation

Beyond all doubt, Canadians have devoted increasing proportions of their budgets to the operation of automobiles during the last three decades. However, it is difficult to measure precisely how large the proportion is now or has been. First, in a number of cases information is of poor quality regarding the sales of the goods and services to all vehicle users. Secondly, information on the division of vehicle operating costs between the personal and other owners and users is inadequate.

In Canada's national accounts, estimates of automobile operation costs and an allocation of these between the personal and other sectors have been made. (The methods are reviewed in Appendix B to this study.) These data³⁷ are summarized in Table 58. The table shows that the personal expenditure on the operation of automobiles accounted for about 4.50% of total personal expenditure between 1952 and 1955 compared with 2.80% between 1926 and 1929, when measurement is made in current dollars. In constant (1949) dollars, the increase is from about 2.54% to 4.65%. Another way of looking at this growth is to compare it with the growth in income and the stock of automobiles.

³⁷ The published data on auto operation costs are based on the 1930 and 1941 census, allocating 80% of the costs to the personal sector in 1930, and larger proportions in later years, depending on vehicle registration and mileage. A revision of the national accounts which is now underway uses different assumptions. See Appendix B of this study. The revised estimates have been used in this study.

Table 57

GROWTH IN INCOME, AUTOS, EXPENDITURE ON AUTO OPERATION, IN CONSTANT (1949) DOLLARS

Item	1952-55 as % of 1926-29
1. Passenger vehicles registered.....	298 ^a
2. Personal expenditure on consumer goods and services.....	227
3. Personal expenditure on operation of automobiles.....	412
.1 Gasoline, oil, grease.....	494
.2 Auto parts and accessories.....	262
.3 Auto repairs and other expenses.....	360
4. Personal expenditure on auto operation per passenger vehicle registered.....	138

^a Average registration 1952 and 1953 as % of average registration 1928 and 1929.

Assuming that the growth in personal ownership of automobiles has been roughly the same as in the total registration of passenger automobiles, the table shows that the very rapid increase in the personal expenditure on auto operation has been partly because of the rapid growth in the stock of automobiles (more rapid than the increase in personal expenditures) and partly because the average operating costs per auto have increased (by roughly 38%). The latter is primarily due to the increase in the expenditures per auto on gas, oil, grease and auto repairs.

Another source of information on personal expenditure on auto operation is provided by selected Canadian family budget surveys. (See Table 59.) These data suggest that a smaller proportion of personal expenditure was devoted to automobile operation than was indicated by the national accounts. However, similar to the national accounts data, Table 59 shows a trend of increase in the proportion.

Prospects for personal expenditure on the operation of automobiles

In our judgment, auto operation will account for a larger fraction of personal expenditure in the future than at the present time. Our guess is that expenditure (in 1949 dollars) per vehicle on gasoline, oil and grease will be 15% to 20% higher in 1980 than in 1955 and on auto repairs and miscellaneous operating items and auto parts and accessories will likely be 25% larger by 1980. As the number of passenger automobiles in 1980 is expected to be about 300% of the present stock, the aggregate personal expenditure on auto operation is expected to reach more than 400% of present levels by 1980. Figures on these prospects are set out in Table 60; the basis of the judgment is expressed below.

Consider first the prospects for expenditure on gasoline, oil and grease. This expenditure, when measured in constant dollars, depends on the

growth in the stock of personal automobiles, on the average mileage which these vehicles are driven, and on the fuel consumption per mile. In a previous section of this chapter, the judgment was expressed that the stock of passenger automobiles in Canada would probably be between 8.4 million and 9.2 million vehicles in 1980 compared with a little more than 2.9 million at the end of 1955. Assuming that the personal share in this stock of automobiles remains constant, this implies that the stock of automobiles will increase at about the same rate as total personal expenditure on goods and services. Information is rather scarce on the trends in the average mileage per vehicle, but fragmentary data indicate that a fairly significant increase in the average mileage per vehicle per year has taken place in the past. It is our expectation that this increase will be somewhat less rapid in the future, partly because of the development of two-car and three-car families. The question of fuel consumption per mile is a difficult one indeed. While there are indications that the newer engines are more efficient in a technical sense, additional power and acceleration appears to have just about offset any improvement in efficiency. Thus the miles per gallon of fuel now appear to be about the same as they were 15 or 20 years ago. Our judgment is that no significant improvement in the mileage per gallon is likely to be made, unless motor fuel increases substantially in price relative to the price of other goods and services. The net result of these considerations is an expectation that the consumption of fuel, oil and grease per vehicle will increase by 15% to 20% in the next 25 years.

Expenditure per vehicle on auto parts and on auto repairs and maintenance and miscellaneous operating costs are expected to increase in the same degree as the expenditure on gasoline, oil and grease. On the one hand, automobiles appear to be more durable than they used to be, in the sense that they require fewer repairs per mile driven. Also, repair and maintenance expenditure tend to be cut down by more rapid obsolescence of automobiles and by the substitution of new or reconditioned components rather than the repair of the components in a particular vehicle. Both of these considerations would tend to reduce the expenditure on automobile repairs and maintenance. On the other hand the vehicles are becoming more complex and therefore more expensive to repair. Further, auto repair and maintenance is a labour intensive type of service, one which tends to become relatively more expensive per unit of product as the economy grows. These considerations suggest that expenditures on auto repair and maintenance might reasonably be expected to increase a little per vehicle. The miscellaneous auto operating costs include the net cost of insurance, bridge, ferry and highway tolls and such. Canadians are in the early stages of increased use of toll facilities, and it therefore seems reasonable to expect a fairly rapid increase in this type of expenditure in the future. As the vehicle becomes more expensive, that is, as average quality of a vehicle increases, the net cost of insurance might also be expected to increase per vehicle.

The net result of our judgment is that the over-all expenditure on auto operations is expected to increase, when measured in 1949 prices from about 4.4% of total personal expenditure between 1952 and 1955, to more than 6% of total personal expenditure by 1980. In other words expenditures on auto operations in 1980 are expected to be more than 400% of the level in 1955 compared with an expectation that personal expenditure on all goods and services will be about 285% of 1955 level, all comparisons being made in 1949 prices.

Table 58

PERSONAL EXPENDITURE ON AUTO OPERATION IN CANADA

Item	1926-29 average		1952-55 average		1952-55 Expend. as % of 1926-29
	Expenditure	% of total personal expenditure	Expenditure	% of total personal expenditure	
Part A: Current \$					
1. Gasoline, oil, grease.....	62.3	1.49	434.3	2.74	700.0
2. Auto parts and accessories.	31.7	0.76	113.8	0.72	358.0
3. Auto repairs.....	23.1	0.55	164.6	1.04	712.5
4. Other auto operation....					
5. Total auto operation....	117.1	2.80	712.7	4.50	608.8
6. Total personal expend..	4,188.1	—	15,804.1	—	377.4
Part B: Constant \$					
7. Gasoline, oil, grease.....	81.9	1.37	404.9	3.02	494.3
8. Auto parts and assecories	32.0	0.54	83.9	0.63	262.1
9. Auto repairs.....	37.3	0.63	134.4	1.00	360.3
10. Other auto operation....					
11. Total auto operation..	151.2	2.54	623.2	4.65	412.2
12. Total personal expend.	5,896.6	—	13,396.0	—	227.1

SOURCE: Data made available by the National Income Section of D.B.S.

Table 59

CANADA: FAMILY BUDGET DATA—EXPENDITURE ON AUTO OPERATION

Survey or year	Percent of total expenditure on:	
	Gasoline, oil and grease	Other auto operation
1937-38.....	1.51	0.81
1947-48.....	1.51	1.62
1953.....	2.01	2.05

SOURCE: See bibliography for references to Canadian family budget surveys.

Table 60

PROSPECTS FOR PERSONAL EXPENDITURE ON AUTO OPERATION

	Actual			Prospects	
	1926-29	1952-55	1955	1965	1980
1. No. of passenger vehicles registered.....	873.0	2,606.0	2,935.0	4,585	8,775
2. Index of No. of passenger vehicles registered, 1955 = 100	29.7	88.8	100.0	156	299
3. Index per vehicles, 1955 = 100 of:					
a. Gasoline, oil, grease.....	60	100	100.0	107	117
b. Auto parts and accessories.....	105	95	100.0	109	125
c. Auto repairs and misc. auto operation.....	73	91	100.0	109	125
d. Auto operation.....	69	97	100.0	108	121
4. Index of total personal expenditure on:					
a. Gas, oil, grease.....	17.9	88.5	100.0	158	354
b. Auto parts and accessories.....	22.1	84.2	100.0	165	376
c. Auto repairs and misc. auto operation.....	26.1	97.5	100.0	203	441
d. Total auto operation.....	21.6	89.0	100.0	173	375
5. Personal expenditure in 1949 \$ on:					
a. Gas, oil, grease.....	81.9	404.9	457.7	760	1,620
b. Auto parts and accessories.....	32.0	83.9	99.7	165	375
c. Auto repairs and misc. auto operation.....	37.3	139.4	143.0	290	630
d. Total auto operation.....	151.2	628.2	700.4	1,215	2,625
6. Total personal expenditure.....	5,896.6	13,396.0	14,312.2	21,300	41,600
7. % of total personal expenditure on:					
a. Gas, oil, grease.....	1.39	3.02	3.22	3.57	3.89
b. Auto parts and accessories.....	0.54	0.63	0.70	0.77	0.90
c. Auto repairs and misc. auto operation.....	0.63	1.04	1.01	1.36	1.51
d. Total auto operation.....	2.56	4.69	4.93	5.70	6.31

SOURCE: See Appendix C.

*(d) Personal Expenditure on Purchased Transportation**Introduction*

Purchased transportation includes passenger fares paid to railroads, ship and air lines, bus lines, taxis, and streetcar operators. While there is some difficulty in precise measurement, it is quite clear that there has been a long-run trend of decline in the fraction of personal expenditure devoted to purchased transportation services. In other words, the growth in such expenditure, while absolutely substantial, has been much less rapid than the increase in total personal expenditure on consumer goods and services. The main reason for this has been the increased use of private automobiles. To some extent, this has been accompanied by an over-all increase in personal travel, but to a significant degree, there has been a substitution of private automobile travel for many types of purchased transportation service. The relative decline in personal expenditures on purchased transportation has been most severe for rail services, and much less severe for streetcar fares and steamship fares. Bus travel, taxis and aircraft now account for larger proportions of total consumer expenditure than they did three decades ago.

It is our expectation that the decline in the fraction of the consumer budget devoted to purchased transportation will be much smaller in the future than it has been during the past three decades; indeed the fraction may well be larger in the future. After the trends in this expenditure group are dealt with, this section will conclude with some examination of the prospects.

*Trends in personal expenditure on purchased transportation*³⁸.

Canada's national accounts include estimates of personal expenditure on purchased transportation. A summary of these data is found in Table 63. The table shows that, measured in current or in constant (1949) dollars or in constant (1955) dollars, personal expenditure on purchased transportation accounted for a significantly smaller fraction of total consumer budgets between 1952-55 than between 1926-29. The decrease in the proportion is much larger when the measurement is in current than in constant dollars, because the increase in the unit price of purchased transportation services has been much less during the past 30 years than the increase in the general level of prices of consumer goods and services. The decrease in purchased transportation services has taken place despite a very marked increase in total personal travel, and in the fraction of personal budgets devoted to travel. In current dollars, 12.29% of the consumer budget was devoted to transportation, between 1952 and 1955, compared with 8.70% between 1926 and 1929. In constant (1949) dollars, the same comparisons are

³⁸ For this section, a most helpful reference has been J-C. Lessard, *Transportation in Canada*, a study prepared for the Commission, Ottawa, 1957.

12.57% against 9.39%. The difference in trend between purchased and total transportation outlays is primarily to be explained by the relative growth in the use of personal automobiles.

The relative decline in personal expenditure on purchased transportation has not been felt evenly by all forms of such service.

Table 61

CURRENT DOLLAR EXPENDITURES ON VARIOUS FORMS OF PURCHASED TRANSPORTATION

Item	1955 as % of 1930
Total transportation.....	607.3
Total purchased transportation.....	256.2
Steam railroad fares.....	114.4
Streetcar fares.....	268.3
Taxi fares.....	581.9
Steamship fares.....	280.8
Air travel.....	<i>more than</i> 3,000.0
Total personal expenditure on consumer goods and services.....	382.7

Table 61 presents comparative data in current dollars for various types of expenditure. Steam railroad fares have been the outstanding example of relative decline, with smaller relative declines for streetcar fares and for steamship fares. Total expenditure on taxis has increased more than total personal expenditure on consumer goods and services, and air travel has experienced a phenomenal growth.

Selected data comparing the personal use of transportation in Canada and the United States are presented in Table 64. This table shows that intercity travel by Canadians on paid transportation systems is about 85% of current American levels. However, much more of the Canadian travel is on railroads and buses (the comparatively cheap forms of personal transportation) than on airlines. This comparison suggests that Canadians will probably shift quite markedly toward the use of air travel in the future. American data also show that intercity travel by common carrier bears a similar ratio to G.N.E. in constant dollars in 1953 to that which it did in 1929³⁹. This experience lends support to the view that a considerable growth in Canadian intercity travel by common carrier is to be expected in the future.

In considering the bases of the Canadian trends, it is useful to distinguish between local and intercity traffic. In local traffic, the most important trend has been the growth in private automobile transportation relative to streetcars and railroad commuter traffic. This growth is all the

³⁹ Dewhurst, *op. cit.*

Table 62

CANADA: PROSPECTS FOR PERSONAL EXPENDITURE
ON PURCHASED TRANSPORTATION SERVICES

(\$ millions unless otherwise specified)

Item	1952-55	1955	1965	1980
Total personal expenditure on consumer goods and services.....	13,396	14,337	21,300	41,600
Percentage of expenditure on purchased transportation services.....	1.91	1.79	1.75	1.65
Prospective expenditure on purchased transportation services.....	256	257	375	690

Table 63

PURCHASED TRANSPORTATION—SELECTED DATA ON
PERSONAL EXPENDITURE

Item	1926-29	1952-55	1952-55 as % of 1926-29
1. Expenditure on purchased transportation in current \$....	132.2	322.1	243.6
2. % of total personal expenditure on purchased transportation in current \$.....	3.16	2.04	64.6
3. Expenditure on purchased transportation in (1949) constant \$.....	140.9	256.0	181.7
4. Total personal expenditure.....	5,896.6	13,396.0	227.1
5. Expenditure per capita on purchased transportation.....	14.5	17.1	117.9
6. % of total personal expenditure on purchased transportation, in constant (1949) \$.....	2.39	1.91	80.0
7. % of total personal expenditure on purchased transportation both in constant (1955) \$.....	2.53	2.03	79.8

SOURCE: See Appendix B.

Table 64

PERSONAL TRANSPORTATION—SELECTED
CANADIAN AND U.S. COMPARISONS

	U.S. 1952	Canada 1953	Can. 1953 as % of U.S. 1952
1. Railroad passenger miles per capita.....	218	195	89.5
2. Intercity bus passenger miles per capita.....	134	123	91.8
3. Air travel, passenger miles per capita.....	81	50	61.7
4. Total intercity purchased transportation, excluding inland waterways, passenger miles per capita.....	432	368	85.2
5. Automobiles registered per 100 population.....	28.6	16.9	59.0

SOURCE: U.S. data computed from J. Frederick Dewhurst and Associates, *America's Needs and Resources* 1955.Canadian data computed from data in J.-C. Lessard, *Transportation in Canada*, a study prepared for the Commission. Ottawa, 1957.

X. *Health and Burial Expenses*

(a) *Introduction*

This section deals with trends and prospects for Canadian personal expenditure on health and burials. As the national accounts are now constructed personal expenditure on health includes, directly or indirectly, almost all of the costs of the nation's health programme. Section (b) deals with health expenses, while Section (c) is concerned with burial and related expenses.

(b) *Health Care*

Canadian personal expenditures on health care account for a slightly larger fraction of total personal expenditures now than in the late 1920's. It is our expectation that the fraction will increase more rapidly in the future. The trends, prospects and bases for our judgment are set out below.

Trends in total and personal expenditures on health care by Canadians

When considering expenditures on health care in Canada, it is important to distinguish between the total bill and that part which is measured by personal expenditure on medical and health care in Canada's national accounts. While the total bill could be extended quite broadly it will be taken here to include the current operating costs of public and private hospitals, tuberculosis sanatoria, mental institutions and federal hospitals, together with payments for the professional services of physicians, dentists, nurses and other services, plus the purchase of prescribed drugs and the administrative cost of the voluntary health plans. This is the group of items measured as total expenditures on personal health care and services in a recent study by the Department of National Health and Welfare⁴¹. In 1953 this group amounted to \$756 million, or about 3.08% of G.N.E. As the National Health and Welfare study points out, this group understates the total personal health bill of the nation as "no attempt has been made to include public or private capital expenditures (such as the building and extension of hospitals and other health facilities), or the costs of administering public health and other technical services, or the costs of operating voluntary health agencies".⁴² Neither do the estimates include the costs of medical training and a large part of medical research.

In Canada's national accounts the personal expenditures on medical and health care are slightly less comprehensive than the estimates made

⁴¹ Research Division, Department of National Health and Welfare, *Health Care in Canada, Expenditures and Sources of Revenue, 1953*, Memorandum No. 12, General Series, Ottawa, August, 1955.

⁴² *Ibid.* "It is believed that, if such expenditures were included, the over-all total for all aspects of Canada's Health would reach well over 900 million dollars."

in the study by the National Health and Welfare, though they cover more than the personal cash outlays for medical and health care in a particular year. The two sets of estimates are compared in Table 65. The main difference is that the National Health and Welfare study includes all the operating costs of government hospitals whereas the national accounts personal expenditure series includes only the payments by patients to these government hospitals. The two estimates are similar in the sense that all operating costs of general, private and public non-commercial and commercial hospitals are included. The other main difference between the two estimates concerns drugs. In the National Health and Welfare estimates, a figure is set down for the personal expenditure on prescribed drugs. In the national accounts, sales of drugs, cosmetics and toilet preparations are lumped together, the total also including the various other items sold by drug stores. When the coverage of the two measures is similar, so are the estimates of the total costs of the nation's personal health bill.

To provide some estimate of trends in the total cost of the personal health bill, certain adjustments have been made to the national accounts estimates of personal expenditure on medical and health services. The main procedure has been to estimate the revenue other than from paying patients of government hospitals and to add to this an estimate of the apparent Canadian consumption of drugs, prescribed and other. These data have been set out in Table 66. The data suggest that the total personal health bill of Canadians accounts for almost the same proportion of G.N.E. now as it did in 1930. However, the total is a higher ratio of personal expenditure on consumer goods and services now than it was in 1930, mainly because total personal expenditure has grown less rapidly than G.N.E. since that time.

If we turn to personal expenditure on medical care and physician services and such like, as measured in the national accounts, (excluding the expenditure on drugs), it appears that the personal outlays have increased somewhat more rapidly than total personal expenditure but less rapidly than G.N.E. during the last three decades. (See Table 66.) It should be emphasized that the figure for personal expenditure on medical and health care in consumer expenditure exceeds the actual cash outlays because the estimates include the total operating costs of public and private hospitals rather than the payments by private patients to these hospitals. There appears to have been a rather small change in the proportion of personal budgets and G.N.E. devoted to meeting the nation's health needs.

There are a number of other indicators of comparatively modest size or modest change in the proportions of the nation's resources devoted to health services. Table 67 presents data on the number of physicians relative to the Canadian population. This shows that the number of physicians per capita was higher by 1954 than in almost any previous year, but only slightly larger than in 1921, 1931 and 1941. Table 68 presents selected

Canadian family budget data on medical care. The proportion of consumer expenditure devoted to medical care, judged by the family expenditure data, is slightly higher than is indicated by the national accounts. However, the latter excludes drugs while the former includes drug items. When adjustment is made for this difference in coverage the level of expenditure on medical care is about the same as in the national accounts. The family budget information suggests that the proportions of consumer expenditure devoted to medical care in Canada was about the same in 1947-48 as it was in 1937-38, but that a significant increase took place between 1947-48 and 1953. This increase confirms indications provided by the national accounts. Finally, data in the taxation statistics published by the Department of National Revenue indicate that comparatively few taxpayers have had medical expenses in excess of 3% of their gross income in recent years. This is another indicator that the national accounts and family budget estimates of medical expenses cannot be significantly off the mark.

Comment on trends in personal expenditure on health care

It has been noted that the personal expenditure on health care accounts for a not very much larger proportion of total personal expenditure now than it did almost three decades ago, though there has been a considerable increase in the proportion in recent years. In Canada, up to this point, the provision of or demand for medical care has mainly depended on the willingness and ability to pay of individual private purchasers of medical services. It is true that an increasing proportion of the total medical bill has been met by governments, either by the provision of free government hospital services or by means of various types of subsidy to the public and private hospitals. Nevertheless, the main source of expenditure on health services in Canada remains the private individual. In recent years there has been a very rapid increase in the use of prepaid medical plans, under provincial arrangements in three provinces and under semi-public arrangements like the Blue Cross in most other provinces, as well as the development of additional private insurance company plans. By pooling the risk of medical expense, the full burden of any particular piece of medical care is somewhat removed from the individual. In recent years an increasing proportion of consumer budgets have been devoted to medical care suggesting that a considerable increase in the demand for services by individuals might be expected to accompany a further extension of medical insurance arrangements. The proposition about medical services depending on the ability and willingness of individuals to pay must be qualified for the poorer sections of the community. Extensive public aid for such people is available; in addition it is well known that these people are often charged lower fees for the same professional medical services than is charged to people with a higher income.

In the broadest sense, the advances in medical knowledge and practice are reflected in the growth and pattern of expenditure on health care. On the North American continent, the crude death rate per thousand has fallen to very low levels. This is mainly due to the decline in infant mortality, to the decline in the mortality of mothers at the time of childbirth, and to the control of communicable diseases. Average life expectancy at birth has increased considerably. The increase in life expectancy of the population means that the degenerative diseases and chronic illnesses have become much more important parts of medical care. Preventive medicine does not appear to be an enormously expensive business for the community, but the continued care for older people can be very costly indeed. The development of various drugs and pharmaceutical preparations has led to a comparatively rapid growth in the proportion of the medical bill consisting of such outlays. Another factor which influences the relative growth in medical expenses is the increase in the costs of providing any specific service. Medical service is a very labour intensive activity. For example, American data indicate that it takes about 1.5 hospital workers per patient in a general hospital. As labour becomes relatively more expensive, the relative cost of providing such services tends to increase compared with the general level of prices of goods and services. Part of the growth in the proportion of consumer budgets devoted to medical services must be attributed to this cause. In other words, to provide any given level of medical service, it takes larger and larger real outlays. When comparatively modest increases in the level of medical care per capita are added to the increasing real cost of medical services, it is not surprising that the total outlays for medical expenditure have grown so rapidly during the past three decades.

Various attempts have been made to determine whether the community tends to devote increasing proportions of its income to medical services as income increases. The available evidence indicates that, so long as the major part of the cost of any particular piece of medical attention must be borne by the individual more or less at the time of the service, the outlays on medical services tend to grow at least as rapidly as incomes. Some bare minimum of health care will be demanded by the public no matter how poor the general economic circumstances. However, there is a very great possibility for expansion of the demand for medical services as economic circumstances improve. The care of teeth is one of the most obvious examples. Studies of medical "needs" in the United States have clearly indicated that in the poorer states or regions, a very large number of medical conditions which could be improved by treatment are in fact receiving no treatment. This is very largely a cost of or the price of poverty. Undoubtedly the same condition exists in Canada.

One of the most difficult problems in appraising trends in medical care concerns the improvement in diagnosis and the change in social attitude

toward certain illnesses. Statistics on mental institutions suggest that the incidence of mental illness is very much higher than it was three decades ago. It is difficult to know whether this is a genuine increase, or whether it represents a change in diagnosis or in social attitude toward such illness. The same problem applies to some extent to other forms of illness. At one time people with "consumption" or with lung cancer bore their hacking coughs in private and died relatively quickly. At least so far as tuberculosis is concerned, this is certainly no longer true.

Prospects for personal expenditure on medical care

The concern in this section is with the personal expenditure on medical care, which includes all personal health services except the government costs of government hospitals. In our judgment the prospects are for a somewhat larger fraction of total personal expenditure to be devoted to these purposes, probably increasing from something like 3.85% of total personal expenditure between 1952 and 1955 to 4.75% of total personal expenditure in 1980, both estimates in 1949 constant dollars and excluding drugs. If the group were measured in 1955 prices, the increase would be more like from 3.9% of total personal expenditure to 4.9% of total personal expenditure during the same period, again excluding drugs. If drugs were added into the expenses,⁴³ the increase would probably be from about 4.45% of personal expenditure to 5.55% of total personal expenditure, both measurements in constant 1949 prices.

These judgments are based on the following considerations.

1. As was indicated in the study of housing and social capital prepared for the Commission, the public health authorities consider that the present supply of hospital beds per capita is inadequate. The social capital expenditures have been projected on the assumption that the active treatment beds will increase from about 5.1 per thousand people in 1956 to about 5.5 in 1980, that chronic convalescent beds will increase from about 0.6 per thousand people in 1956 to about 1.5 per thousand in 1980 and that the rated bed capacity of mental hospitals will increase from about 3.5 per thousand in 1956 to about 4.5 by 1980. These projections mean that the average level of hospital services per capita is expected to increase substantially. In addition, if past trends are any guide to the future, it appears likely that the average level of service per bed of each type will probably increase. In particular, it is expected that the treatment of mental patients

⁴³ Because of statistical difficulties, expenditures on drugs have been dealt with in the next section along with cosmetics and toilet preparations.

will take increasingly active forms. These considerations suggest that the per capita level of medical services may be expected to increase substantially in the future.

2. In recent years, there has been a significant increase in the fraction of personal budgets devoted to medical care, and this paralleled the rather rapid increase in the prepaid medical insurance arrangements or provincial health plans. It seems likely that these arrangements will be extended and that they will be accompanied by an increased demand for medical services per capita.
3. While an increasing share of the medical bill of the nation may be covered by various forms of government subsidy, this will not, by itself, affect (what is called) the personal expenditure on medical care. The personal expenditure item covers all of the health bill except the government costs of government hospitals. Thus, unless the government costs of government hospitals increase much more rapidly than the total health bill of the nation, the personal expenditure item should increase more or less proportionately with the total health bill.

All of the projections have been made in terms of constant 1949 dollars or constant 1955 dollars. This means that the relative cost of medical services compared with the general level of prices of consumer goods and services is assumed to be the same in the future as it was in 1949 or in 1955. It is highly likely that the relative cost of medical care will increase substantially in the future, thus suggesting that the fraction of personal budgets devoted to medical care, when measured in current dollars of the future will likely be somewhat larger proportions of total personal expenditure than those projected in constant dollars. The projections are summarized in Table 69.

(c) Burial Expenses, Cemeteries and Crematories

While Canadians apparently devote smaller proportions of their budgets to the burying and caring for their dead now than they did in the late 1920's, there has been a considerable increase in the expenditure per death (measured in constant prices) during the past three decades. We see no reason to expect a reversal of this trend. Moreover, the rate of decline in the crude death rate will likely be smaller in the future than in the past three decades. Thus one might reasonably expect a more rapid increase in this group of expenditures in the future than during the past three decades. We have projected these expenses at 0.35% of total personal expenditure in 1980 compared with an estimated 0.29% between 1952 and 1955.

Table 65

PERSONAL HEALTH COSTS AND PERSONAL EXPENDITURE ON HEALTH, 1953

National Health and Welfare		National Accounts	
	(\$ millions)		
Hospital care		Hospital Care: operating costs of	
Public and private hospitals....	273.0	public and private hospitals plus	
Tuberculosis sanatoria.....	32.0	an estimated \$15 million pay-	
Mental.....	57.0	ment by private individuals to	
Federal gov't hospitals.....	40.0	government hospitals.....	
	402.0		305.4
Physicians' services.....	170.0		
Dental care.....	72.0	Medical care, dental care, osteo-	
Nursing services and other services	25.0	paths, chiropractors, optome-	
	267.0	trists, private duty nursing....	
Sub-total.....	669.0		293.8
Sub-total less gov't hospitals		Sub-total.....	599.2
plus private payments to gov't			
hospitals.....	(555)	Administration of health plans...	28.7
Administration of health plans...	22.0	Workman's and railway compen-	
Workman's and railway compen-		sation.....	-25.0
sation.....		Sub-total.....	602.9
Sub-total.....	691.0		
Sub-total adjusted.....	(577)		
Prescribed drugs.....	65 =		
Total.....	756		

SOURCE: Dept. of National Health and Welfare, *Health Care in Canada: Expenditure and Sources of Revenue, 1953*; Memorandum #12, General Services, Ottawa, August 1955.
D.F.S., *National Accounts, Income & Expenditure*, various issues, and data made available by the National Income Section of D.B.S.

Table 66

A ROUGH ESTIMATE OF CANADA'S PERSONAL HEALTH BILL IN VARIOUS YEARS

	1928	1930	1939	1947	1950	1953	1955
1. <i>National Accounts</i> , estimated 'personal expenditure' on hospital care, medical care, osteopaths, chiropractors, optometrists, private duty nursing and administration cost of accident and sickness insurance programmes, out of compensations paid to households.....	157.0	154.3	145.2	292.1	421.8	579.4	718.6
2. Estimated government share of costs of mental health hospitals and TB sanatoria.....	16.0	15.0	21.0	37.0	63.0	79.0	—
3. Estimated operating costs of federal government hospitals.....	3.0	3.0	4.0	19.0	26.0	35.4	—
4. Estimated apparent Canadian consumption of drugs and pharmaceutical products.....	19.0	15.0	23.0	57.0	73.0	89.0	—
5. Rough estimate of total personal health bill.....	195.0	187.3	193.2	405.1	583.8	872.8	—
6. Total personal expenditure on consumer goods and services.....	4,333.0	4,365.0	3,904.0	9,173.0	12,029.0	15,112.0	16,888.0
7. Total G.N.E.....	6,105.0	5,546.0	5,707.0	13,768.0	18,203.0	24,473.0	26,769.0
8. Estimated health bill as % of total personal expenditure.....	4.50	4.29	4.95	4.42	4.85	5.18	—
9. Estimated health bill as % of G.N.E.....	3.19	3.38	3.38	2.94	3.21	3.20	—
10. <i>National Accounts</i> estimate as % of rough estimate of total personal health bill.....	80.5	82.3	75.2	72.1	72.3	74.0	—
11. <i>National Accounts</i> estimate as % of total personal health bill excluding drugs.....	89.2	89.6	85.3	83.9	82.6	83.5	—
12. <i>National Accounts</i> estimate as % of total personal expenditure.....	3.62	3.54	3.72	3.18	3.51	3.83	4.26
13. <i>National Accounts</i> estimate as % of G.N.E.....	2.57	2.78	2.54	2.12	2.32	2.37	2.68

SOURCE: Line 1: D.B.S., *National Accounts, Income and Expenditure*, and data made available by the National Income Section of D.B.S.Lines 2 and 3: Calculated for 1953 from the Dept. of Health and Welfare Study, *Health Care in Canada*. For other years, estimated from data of public accounts, and hospital statistics.

Line 4: Gross value of production of drugs and pharmaceutical products industries plus imports minus exports.

Table 67

ACTIVE PHYSICIANS AND POPULATION PER PHYSICIAN IN CANADA, 1901-54^a

Year	Physicians ^b			Population per active physician ^c
	Civilian	Armed forces	Total active	
1901 (June).....	5,475	d	d	972 ^e
1911 (").....	7,411	d	d	970 ^e
1921 (").....	8,706	d	d	1,008 ^e
1931 (").....	10,020	d	d	1,034 ^e
1941 (").....	10,723	1,150	11,873	968
1943 (March).....	8,614	3,006	11,620	1,014
1947 (July).....	13,098	165	13,263	946
1948 (Sept.).....	13,259	114	13,373	959
1949 (").....	13,726	147	13,873	969
1951 (June).....	14,163 ^f	178 ^f	14,341 ^f	977
1954 (").....	15,651 ^g	380 ^g	16,031 ^g	948

^a Yukon and Northwest Territories excluded for 1947, included for 1948-52; Newfoundland included for 1949-54.

^b 1901 to 1941, Census data; 1943 to 1951 and 1954, Physicians Register, Department of National Health and Welfare; 1954, preliminary.

^c Based on D.B.S. intercensal estimates (revised) as at June 1 of the years concerned.

^d Not available.

^e Per active civilian physician.

^f Does not include graduates of 1951.

^g Does not include graduates of 1954.

Table 68

SELECTED FAMILY BUDGET DATA ON MEDICAL CARE IN CANADA

	1937-38 \$	1947-48 \$	1953 \$
1. Total consumption expenditure per family..	1,380.0	2,589.0	3,821.0
2. Health maintenance:			
a. 1,135 British families.....	64.0	—	—
b. 211 French families.....	59.5	—	—
c. All families.....	63.0	115.0	188.0
3. % of consumption on health maintenance...	4.57	4.44	4.92

NOTE: Health maintenance expenditures:

1937-38: includes medicines and drugs, eye-glasses, other health supplies, doctors' fees, dental fees, nursing services at home, hospital fees, accident and health insurance services, cemetery maintenance, and funeral and burial expenses.

1947-48: includes services of doctors, dentists, etc., eye care, hospital and nursing care, psychotherapy, medicines and drugs, prepaid health care and health and accident insurance.

SOURCE: D.B.S., *Family Income and Expenditures*, Surveys of 1937-38, 1947-48, and 1953.

Table 69

PROSPECTS FOR PERSONAL EXPENDITURE ON MEDICAL CARE (EXCLUDING DRUGS) AND BURIAL EXPENSES

	Total personal expenditure on health services in millions of constant (1949) dollars	% of total personal expenditure
1926-29.....	223	3.77
1952-55.....	554	4.13
1965.....	925	4.35
1980.....	2,125	5.10

XI. *Drugs, Cosmetics, Toilet Preparations, Miscellaneous Drug Store Products and Personal Care*

So far as can be determined from the available data, Canadians have apparently spent increasing fractions of their budgets on drugs, cosmetics, toilet preparations and miscellaneous drug store items (other than pharmaceutical products), during the past three decades, and a roughly constant proportion of their budgets on barber shops, beauty parlours and miscellaneous personal services. In constant dollars, the fraction of the total personal budget devoted to drugs, cosmetics, and so on, has increased more rapidly than in current dollars, whereas the fraction devoted to barber shops and personal care has decreased.

Table 70

PROPORTIONS OF TOTAL PERSONAL EXPENDITURE ON COSMETICS, TOILET PREPARATIONS, MISCELLANEOUS DRUG STORE ITEMS AND PERSONAL CARE

Item	% of total personal expenditure		Expenditure in 1952-55 as % of 1926-29
	1926-29	1952-55	
Part A: Current dollar estimates			
1. Barber shops, beauty parlours and miscellaneous personal services.....	0.74	0.77	393
2. Drugs, cosmetics and toilet preparations.....	1.73	1.93	423
of which:			
(a) Estimated pharmaceuticals.....	0.61	0.75	415
(b) Other items.....	1.12	1.18	354
3. Total personal expenditure.....	—	—	337
Part B: Constant (1949) dollar estimates			
1. Barber shops, beauty parlours and miscellaneous personal services.....	0.88	0.74	192
2. Drugs, cosmetics and toilet preparations.....	1.40	2.06	332
of which:			
(a) Estimated pharmaceuticals.....	0.49	0.76	344
(b) Other items.....	0.91	1.30	324
3. Total personal expenditure.....	—	—	227

The difference between the current and constant dollar indicators of trends is due to the personal services increasing in price by more than the average increase in the price of consumer goods and services, whereas the prices of drugs, cosmetics, and toilet preparations have apparently increased by less than the average. Another way of looking at the trends is to compare the growth in per capita Canadian expenditure (in constant dollars). Expenditures on cosmetics, toilet preparations etc. and drugs have apparently increased more rapidly than per capita real incomes, whereas per capita expenditure on barber shops, beauty parlours and miscellaneous personal services have apparently increased much less rapidly than per capita real incomes.

In discussing these trends, the word *apparent* has been used; this is because the available data on the classes of expenditure being considered in this section are not completely satisfactory. The national accounts data set out the retail sales of drugs, cosmetics and toilet preparations, which is in fact the sales of drug stores. We would very much prefer to deal with drugs, particularly of the prescribed types, as part of the personal expenditure on medical care. From the available data on the production, import and export of drugs and pharmaceutical products, an estimate of the apparent Canadian domestic consumption of pharmaceutical products was made. Adjusting this for retail and wholesale markups, an estimate of the retail sales of drugs was made. The difference between this estimate and the national accounts total for sales of drug stores was taken as an estimate of the sales of cosmetics, toilet preparations and miscellaneous drug store items. Data on the production and international trade in cosmetics and toilet preparations are even less satisfactory than that concerned with pharmaceutical products, but the available data indicated a more rapid increase in Canadian sales of such items than of pharmaceutical products. The data imply that sales of the miscellaneous drug store items, which include such staple items as soap and shaving supplies, have increased less rapidly than the sales of either drugs or cosmetics and toilet preparations during the past three decades.

In our judgment, the proportion of total personal expenditure measured in constant (1949) dollars which will be devoted to barber shops, beauty parlours and miscellaneous personal services will be smaller in the future than at the present time, while the proportion devoted to cosmetics, toilet preparations and miscellaneous drug store items will increase. We have tentatively set the whole group down at 2.25% of total personal expenditure in 1980 compared with about 2.00% at the present time. When drugs were included, we would expect the whole group to be about 3.25% of total personal expenditure by 1980 compared with 2.80% between 1952-55. All of these proportions are calculated on a 1949 constant dollar basis. It is our expectation that these future proportions will be somewhat larger when measured in current dollars of the future, as the group includes a comparatively large proportion of services which will probably become relatively more expansive over time.

Our judgments are based on the following considerations.

1. The volume of haircuts per adult male and per child will not likely increase. Some increase in the volume of beauty treatment per adult female may take place, but the average per capita volume of such personal services is unlikely to increase greatly.
2. Medical advances imply increased use of pharmaceuticals.
3. Drug stores are increasingly important outlets for various kinds of gadgetry, the sales of which will probably increase more rapidly than total personal expenditure.

XI. Drugs, Cosmetics, Toilet Preparations, Miscellaneous Drug Store Products and Personal Care

So far as can be determined from the available data, Canadians have apparently spent increasing fractions of their budgets on drugs, cosmetics, toilet preparations and miscellaneous drug store items (other than pharmaceutical products), during the past three decades, and a roughly constant proportion of their budgets on barber shops, beauty parlours and miscellaneous personal services. In constant dollars, the fraction of the total personal budget devoted to drugs, cosmetics, and so on, has increased more rapidly than in current dollars, whereas the fraction devoted to barber shops and personal care has decreased.

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Our judgments are based on the following considerations.

1. The volume of haircuts per adult male and per child will not likely increase. Some increase in the volume of beauty treatment per adult female may take place, but the average per capita volume of such personal services is unlikely to increase greatly.
2. Medical advances imply increased use of pharmaceuticals.
3. Drug stores are increasingly important outlets for various kinds of gadgetry, the sales of which will probably increase more rapidly than total personal expenditure.

XII. Personal Expenditure on Universities, Private Education, Welfare, Religious and Related Services and Selected Recreational Services

(a) Trends

There is nothing particular to recommend this grouping of miscellaneous services, except perhaps some closeness of substitutability among the items in the personal budget. The group includes the operating costs of universities, commercial and trade schools and other private educational institutions, the operating expenses of private non-commercial charitable and benevolent institutions, the expenditure of religious organizations (other than on housing, food, clothing, automobiles and other goods which are included elsewhere), paid admissions to motion picture theatres, billiard parlours, bowling alleys, camps and tourist grounds, and an estimate of personal expenditure on hotel accommodation and foreign tourist items. In considering trends in expenditure, it is probably best to consider the individual items, rather than the group as a whole.

The operating costs of universities appear to have increased more rapidly than total personal expenditure, or G.N.E. during the past 25 years (see Table 71). However, because the higher expenditure is associated with a significant increase in the proportion of the population which attends universities, a very small addition has been made to the real expenditure per student engaged in university education in Canada. A rough calculation indicates that total operating expenditures of universities per capita, in constant dollars, increased approximately 55% between 1930 and 1955, while the number of students per capita increased by about 34%. In view of the increased proportion of university students in such relatively expensive courses as engineering, this is a very modest increase indeed. Further, it lends some support to the view that there has been a significant decline in the real incomes of those engaged in university education compared with the community at large.

The operating expenditures of trade and commercial schools and other private educational institutions have apparently declined substantially as a proportion of total personal expenditure. Technical education has been increasingly available from public schools. The private school does not seem to be one of the important ways in which Canadians spend their enlarged incomes.

Religious and other service and welfare expenditures have both decreased as a fraction of total personal budgets during the past 30 years. (See Table 71.) The religious and other related expenditures are an estimate of the operating costs not included elsewhere for religious organizations. This group includes the wages and salaries of religious organizations, the costs of maintenance, heat, etc., of religious structures, and miscellaneous supplies. The welfare item is an estimate of the operating expenses of

charitable and benevolent private non-commercial institutions. The decline in the fraction of personal budgets devoted to welfare expenditures appears to be explainable in terms of the relative growth of government activities in charitable and welfare institutions. The decrease in the fraction devoted to religious and related expenditures is less amenable to explanation; it suggests that a progressively smaller part of our personal budgets has been devoted to church work.

Turning to recreational expenses, casual observation suggests that Canadians are devoting larger and larger fractions of their expenditures and efforts to such activities. There is an element of recreation to a wide variety of purchases, including a substantial part of Canadian expenditure on automobiles and their operation, the purchase of sporting equipment, some part of the purchase of clothing, restaurant meals and alcoholic beverages. No systematic study of recreational expenditures in Canada is available. We have selected a few indicators of such expenditures from the national accounts data, including paid admissions to movies, sports events and concerts, an estimate of personal expenditure on hotels and, from the balance of international payments, the estimate of tourist and travel expenditures abroad by Canadians. (See Table 71.) The available data indicate that Canadian expenditures for admissions have decreased as a fraction of total personal expenditure, but there is good reason for believing that the national accounts estimates of such expenditures are understated in recent years. In the first place, they do not include a wide range of membership fees, such as for swimming clubs and golf clubs. In the second place, the whole group has been extrapolated since 1951 on the basis of movie attendance, a group of paid admissions which have declined more rapidly than the average, in competition with television. Similarly, the data suggest that personal expenditures on hotels account for a smaller fraction of total personal expenditures now than they did in the late 1920's. This also is partly a statistical illusion because the expenditure series does not adequately measure expenditures on motels and cabins.

Canadian expenditure on foreign travel is a recreational expenditure of very considerable importance. Because of the way in which expenditures on goods and services are measured in Canada, it is the net expenditures by Canadians abroad which is the relevant item for inclusion in the national accounts. However, as an indicator of the recreational expenditure by Canadians, a more useful indicator is the gross expenditures by Canadians on foreign tourism. The data in Table 71 show that this group of expenditures is about the same proportion of total personal expenditure now as in the late 1920's.

(b) Prospects

For some of the items considered in this section, a few useful things may be said about prospects, items like expenditure on private education.

paid admissions to entertainments and foreign tourism. For others, nothing but wild guesses can be made.

It seems almost inevitable that the full-time enrolment in Canadian universities will increase rapidly during the next 25 years. The study of housing and social capital prepared for the Commission suggests that the university enrolment will probably be about 133 thousand students in 1964-65, compared with 70,200 in 1954-55, and that the enrolment will be between 235 thousand and 267 thousand by 1979-80. This implies approximately a 150% increase in the per capita enrolment of students in 1980, compared with an expected increase in per capita G.N.E. and personal expenditure on all goods and services of about 70%. It follows that the operating costs of universities may be expected to increase much more rapidly than either G.N.E. or personal expenditure; our guess is that such operating costs will be three to four times present levels by 1965 (while total personal expenditure is expected to increase by 50%), and be at least six times present levels by 1980 while total personal expenditure is expected to reach about 290% of present levels. On the other hand, for some time trade and commercial schools, other than those which are publicly supported, have been declining relative to the total economy and such a decline is expected to continue. Other private education has accounted for a fairly stable proportion of total personal expenditure and this should continue. We have no satisfactory basis for setting out the prospects for welfare and religious and other related services. For some time welfare expenditures have been decreasing, mainly, we believe, because of the state taking over these functions. The decline of private welfare institutions will likely continue. A very severe decline was found in the religious and related expenditures, a decline which could not continue at the past rate. For want of a better idea, this item has been set down at the 1955 proportion of total personal expenditure.

In recent years, paid admissions to various forms of entertainment have decreased as a proportion of total personal expenditure, largely reflecting the sudden development of other entertainment media. While we would not expect a revolutionary change from the present position, it seems likely that the present proportions of the consumer budgets devoted to paid entertainment are unusually low. We have set them down at 1.60% of the consumer budget in 1980. Similarly, it is our expectation that foreign travel by Canadians will probably continue to grow almost proportionately with the increase in personal incomes, while expenditures by foreign tourists in Canada will continue to grow but at a rate slower than the increase in Canada's G.N.E. In other words, we do not expect the relative decline of foreign tourism in Canada to be as rapid as between 1926-29 and 1952-55, a decline from about 4.13% of total personal expenditure in Canada to 1.91%. The implied judgments are summarized in Table 72⁴⁴.

⁴⁴ Estimates of the prospects for foreign travel in Canada are taken from R. V. Anderson, *The Future of Canada's Export Trade*, Ottawa, 1957.

Table 71

**PERSONAL EXPENDITURE ON PRIVATE EDUCATION,
WELFARE AND RELIGIOUS SERVICES AND SELECTED
RECREATIONAL AND OTHER SERVICES**

	Expenditure in current \$				% of total personal expenditure			
	Average 1926-29	Average 1952-55	Average 1952-55 as % of 1926-29	1955	1926-29	1930	1952-55	1955
1. Universities.....	n.a.	72.7	n.a.	81.0	n.a.	0.40	0.46	0.47
2. Trade and com- mercial schools.	n.a.	15.2	n.a.	18.4	n.a.	0.19	0.10	0.11
3. Other private education.....	n.a.	12.1	n.a.	13.9	n.a.	0.08	0.08	0.08
4. Total private education ((1)+(2)+(3))	27.3	100.0	366	113.3	0.65	0.72	0.63	0.66
5. Welfare.....	9.7	25.4	262	25.8	0.23	0.22	0.16	0.15
6. Religious and other related services.....	35.9	51.5	143	51.6	0.86	0.83	0.33	0.30
7. Paid admission- recreation.....	73.5	236 ^a	320 ^a	229 ^a	1.75	1.61	1.49 ^a	1.34 ^a
8. Hotels.....	13.6	41.2	303	41.0	0.32	0.38	0.26	0.24
9. Canadian tourist expenditure abroad.....	101.0	382	378	441	2.41	2.11	2.42	2.59
10. Expenditure of foreign tourists in Canada.....	-173.0	-302	-175	-329	-4.13	-4.13	-1.91	-1.93
11. Total personal expenditure.....	4,188.1	15,804	377	16,900 ^b	—	—	—	—
12. Total, Lines 4 to 9	261.0	836.1	320	901.7	6.22	5.87	5.29	5.28
13. Total, Lines 4 to 10	88.0	534.1	607	572.7	2.09	1.74	3.38	3.35

^a This series has been projected from 1951 on the basis of paid admissions to movie theatres and therefore understates the value of total paid admissions.

^b Unrevised published estimate.

SOURCE: Computed from Canada's *National Accounts* and from data made available by the National Income Section of D.B.S.

Table 72

**PROSPECTS—CANADIAN EXPENDITURES ON PRIVATE EDUCATION,
WELFARE AND RELIGIOUS ACTIVITIES AND ASSORTED
RECREATIONAL ACTIVITIES**

	% of total personal expenditure				Expenditure in 1955 \$ (millions)			
	1952-55	1955	1965	1980	1952-55	1955	1965	1980
1. Universities.....	0.46	0.47	0.62	0.80	72.7	81.0	225	500
2. Other private education.....	0.18	0.19	0.17	0.15	27.3	32.3	45	75
3. Welfare.....	0.16	0.15	0.11	0.11	25.4	25.8	30	55
4. Religious and related services.....	0.33	0.30	0.30	0.30	51.5	51.6	75	145
5. Paid admissions.....	1.49	1.34	1.60	1.60	236.0	229.0	400	790
6. Hotels, etc.....	0.26	0.24	0.30	0.30	41.2	41.0	75	150
7. Canadian tourist expenditure.....	2.42	2.59	2.42	2.42	382	441	605	1,190
8. Expenditure of foreign tourists in Canada.....	-1.91	-1.93	-1.89	-1.83	-302	-329	-475	-900 ^a
9. Total Lines 1 to 7.	5.20	5.28	5.52	5.68	836.1	901.7	1,455	2,905
10. Total Lines 1 to 8.	3.29	3.35	3.63	3.85	534.1	572.7	980	2,005
11. Total personal expenditure.....					15,804	16,900	25,100	49,100

^a Preliminary figure from R. V. Anderson, *The Future of Canada's Export Trade*, Ottawa, 1957.

XIII. Other Items of Personal Expenditure

The remaining items of personal expenditures are listed in Table 73⁴⁵.

Table 73

OTHER ITEMS OF PERSONAL EXPENDITURE

	Average expenditure 1952-55	% of Total personal expenditure
1. Selected services.....	159.6	1.01
Operating costs of life insurance and fraternal benefit societies.....	8.5	.05
Bank service charges.....	64.3	.41
Cables and telegrams.....	10.5	.07
Express.....	7.0	.04
Legal fees.....	45.7	.29
Postage and postal services.....	42.0	.27
2. Newspapers, magazines and stationery.....	145.0	.92
3. Provincial and local taxes.....	167.6	1.06
4. Other goods and services.....	403.3	2.56
Total.....	1,053.5	6.68

⁴⁵ This list does not include a number of miscellaneous services which are being introduced into the national accounts in the revision which is now under way.

The last item includes a mixture of goods and services on which sufficient information has not hitherto been available to classify more precisely, as well as residual errors of estimate.

No special study of these items has been undertaken here, but a few obvious points may be raised about the prospects. In the past, there has been a trend for postage and cables and telegraphs to account for smaller shares of total personal expenditure. This probably reflects the increased use of long distance telephone services. The value of personal express charges probably reflects the slower rate of increase of prices for such services than for the average of consumer goods and services.

Personal expenditures on newspapers, magazines and stationery have increased more rapidly than total personal expenditure in the past. The list of miscellaneous goods and services tends to include many items of more or less new goods and services. Thus one would expect that when a historical classification is used as a basis for projection, the miscellaneous items in that classification would account for progressively larger fractions of consumer budgets.

QUESTIONS, IMPLICATIONS AND CONCLUSIONS

IN CONCLUDING this study, there are a number of questions of varying scope which we might usefully explore. Does Canada have a problem of too much or too little consumption expenditure? Too much or too little personal saving? Or perhaps more appropriately — how, and how effectively, are the trends in consumption and personal saving adjusted to various economic circumstances? What are the more important implications of the prospective changes in the distribution of consumer expenditure for the growth of agriculture, the housebuilding industry, the consumption of energy and other facets of the Canadian economy? Does the change in the level and pattern of personal expenditure imply any substantial alteration in the short-run fluctuations in consumption and personal saving? This chapter is concerned with such questions.

I. Too Much or Too Little Consumption Expenditure in Canada?

At various times, economists have been worried about too much or too little consumption expenditure or, what amounts to the same thing, too little or too much personal saving. Prior to and at the end of World War II, some economists were concerned with the problem of secular stagnation; that is, with the proposition that highly industrialized economies might tend toward persistent unemployment, though of varying degree. Those who predicted secular stagnation did so largely on the basis of judgments that the level of investment opportunities was diminishing. That this might result in persistent unemployment depends on a view that compensating increases in the level of consumption and reductions in the levels of saving would not take place. Thus these economists were concerned with too little consumption.

In recent years, the opposite type of contention has been put forward, that is, that levels of consumption are perhaps too high. Increases of total spending may be outrunning the increases in the real output, resulting in inflationary pressures. Too high levels of consumer expenditure, partly based on increased use of consumer credit facilities, and too low levels of

personal saving are advanced as part of the cause of this situation. Also, in Canada, too little saving for the rate of capital formation is cited as a factor in the increased use of foreign capital in recent years. Corresponding to these various analyses, the community is told at one time that thrift is a bad thing and at another time that there is too little thrift.

There has been comparatively little investigation of these questions in Canada, and the Commission's work on these questions was necessarily very limited. In *Output, Labour and Capital in the Canadian Economy*, the various elements in the national accounts are pulled together along with a national saving-investment account in 1980¹. Under the full employment assumptions of the Commission's work, this savings-investment account in 1980 is a balanced one. That balance was achieved by a process of reconciliation of the various elements in the national accounts, including the consumption and personal saving estimates set out in this study. That the account is balanced, that a reconciliation could be done while retaining the full employment assumptions, reflects in part the belief that there is no inherent difficulty in adjusting the level of consumption expenditure to achieve full employment conditions. However, the amount of work which we were able to do on this question for 1980 was limited; for the period between 1955 and 1980, years in which there may be some long cycles of increasing and decreasing investment or government activity, our work was even more limited.

Let us turn for a moment to the mechanism by which long-run adjustments in the level of consumption take place; in particular to the question of how, under full employment conditions, the proportion of the nation's output devoted to consumption may be increased or decreased. Start from a full employment situation. Assume that there is a long-run increase or decrease in the proportion of the nation's output used to meet government expenditures on goods and services. Would a compensating change in the proportion of the nation's output devoted to consumption take place? We think the answer is yes. Except in the short run and except for certain capital projects, Canadian governments follow more or less closely a budget balancing rule. To attempt to follow such a rule, year by year, in the face of fluctuating business conditions would be inappropriate, but to follow it for the average full employment year in which stable price levels prevail may be good sense. In any case, we believe that long-run budget balancing appropriately describes Canadian public financial arrangements. Even when public authorities borrow funds for capital projects, there is generally some maximum debt-revenue position with which they feel comfortable. The important point is that sustained increases in government expenditure will be more or less matched by sustained increases in the proportion of the gross national income stream which flows into government hands through

¹ Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

current government revenue-raising arrangements, and thus matched by a reduction in the ratio of personal disposable income to G.N.P. By this means the levels of consumption expenditures will be reduced, compensating for the upward drift in the government's share of the national output. A secular downward drift in government expenditures on goods and services would, through the same mechanism, tend to produce compensating increases in consumer expenditure. These compensating adjustments will be kept more or less in step and in magnitude providing that each new government programme is coupled with the raising of just sufficient revenue, under conditions of full employment and stable price levels, to pay for the programme².

The much more difficult case arises when the disturbance is a long-run upward or downward drift in the proportion of the national output used for private investment expenditure. Will a decrease in this proportion be compensated by a corresponding increase in the proportion of the national output consumed, assuming for the moment that the government share is fixed? It is clear that there are some compensating changes, but whether they are similarly timed or similar in magnitude is by no means clear. First, gross business savings as a proportion of G.N.P. depends to some extent and with some lag on the proportion of the nation's output used for current investment purposes. Less rapid investment activity implies a slower growth in the stock of capital and, with some lag, a reduction in the annual depreciation charges. The lag will be smaller if depreciation is calculated on a diminishing balance basis than on a straight line basis. Similarly, the proportion of corporate earnings after tax which are retained in the business may decrease if the level of investment is diminished, though evidence suggests that the target ratios to which companies work in dividing earnings between dividends and undistributed profits change rather slowly³. To the extent that the ratio of gross business saving under full employment conditions may rise or fall as the proportion of the nation's output used for investment expenditure increases or decreases, changes in disposable personal income and consumer expenditure will compensate for the secular drift in investment activity. We doubt that this adjustment will be sufficiently rapid or large to compensate precisely for sustained changes in investment activity. Second, for a country like Canada, which draws in varying degree on foreign sources of capital, it may not be necessary to obtain a precise compensatory movement in consumption and investment expenditure. If a sustained fall in the ratio of domestic investment to G.N.P. in Canada takes place, this may be compensated in part, under full employment conditions, by a reduction in the ratio of net foreign investment to G.N.P. Similarly, a sustained

² A change in government expenditure under balanced budget assumptions will usually have a multiplier equal to 1. *i.e.* the change in G.N.E. will be equal to the change in government expenditure. The results may vary somewhat depending upon the induced changes in investment and imports. See bibliography for references to literature on this subject.

³ John Lintner, *American Economic Review*, May, 1956.

increase in the ratio of domestic investment to G.N.P. in Canada may be compensated not by relative reductions in consumption, but by increases in the net foreign investment in Canada. There is some evidence to support this contention for Canada, but more work is required before we fully understand the mechanism.

Even when we take account of the two points just considered, there may be some problem of getting appropriately timed and sufficiently large increases in consumption to offset a sustained decrease in the proportion of the nation's output used for domestic investment purposes. Whether, in the absence of deliberate government policy, this results in unemployment or not, depends on how effectively the market mechanisms, working through credit conditions, work to stimulate investment and to stimulate consumer spending. This is still an unresolved issue in the economic literature. We may simply note two points. First, there is no scarcity of private and public investment projects which would be judged worthwhile at lower interest rates and under credit conditions which were easier in other respects. Second, as consumer spending becomes more effectively related to conditions in the capital market, it may become more appropriately related to long-run changes in credit conditions.

Before leaving the problem of too little consumption, we should note that there is apparently no limit to the desires of our consumers to spend. If any sustained period of too little spending develops, there is no problem in encouraging consumer spending. All that has to be done is to raise the ratio of the personal disposable income to G.N.P. by appropriate tax and transfer measures, and to convince the public that the increase is not just a temporary windfall. We are convinced that large increases in consumer spending would follow. Other methods of dealing with the problem might be more appropriate, but such matters are beyond our concern here.

Consider for a moment the opposite problem, that is a sustained upward drift in the proportion of the nation's product devoted to domestic private investment. Will the level of consumption be appropriately adjusted? First, political and social considerations aside, the degree to which it is necessary to curtail consumption depends on the extent to which the higher domestic investment is compensated by a capital inflow from abroad. Second, there will be, with some lag, an increase in gross business savings as a percentage of the G.N.P., tending thus to reduce consumer spending. However, this factor will be insufficient to fully compensate for the increased investment. Third, tougher credit terms will also discourage spending. But it may very well take fairly aggressive government economic measures to keep the level of total spending within the bounds of available output at stable prices.

II. Implications of the Changing Pattern of Consumer Expenditure

Changes in the pattern of consumer expenditure are important determinants of the shape of the Canadian economy. Two or three examples may

be noted. First, it is our judgment that increasing proportions of the personal budgets of Canadians will be devoted to durable household goods, sporting and hobby equipment, drugs, automobile operation and recreation and smaller fractions to, for example, clothing and textiles, tobacco, and soaps and cleaning supplies. If these views are correct it follows that the growth of the first-named group of industries is going to be much more rapid than the others in the future. These matters have been discussed at some length in the study of Canadian secondary manufacturing industry⁴. Second, it seems likely that the batch of commercial activities which Canadians will buy as part of their expenditure on food and clothing (and other goods) will increase relatively. Canadians are well behind United States residents in the adoption of frozen foods, packaged meat, prepared salad dressings and various ready-cooked foods. The proportion of the Canadian budgets devoted to eating out is much smaller than in the United States. It is the improved quality and exotic variety of food demanded and the increased use of commercial food preparation activities which underlie our expectation of comparatively rapid increase in Canadian expenditure on food. The growth in the expenditure on food implies an attractive market for Canadian farm produce; nevertheless, the gap between the retail price and the farm price of food products will probably be enlarged.

The proportion of their personal budgets which Canadians devote to shelter is expected to decrease. This means that the construction of housing will probably account for a substantially smaller proportion of G.N.P. in the future than it has in recent years. However, the levels of personal expenditure on housing which we have projected will only be realized if there is a significant improvement in the average quality of Canadian housing in the future. It is by no means clear what the tastes of Canadians will be in this regard. A relative decline in investment in housing is of very great significance to municipal authorities; as their tax base is largely residential real estate, it could mean a relatively shrinking revenue.

III. Short-Run Fluctuations in Consumption

It would be misleading to finish this study without some reference to short-run fluctuations in consumption. In early post-Keynsian days it was popular to treat consumer expenditure in the short run as determined by incomes, with the general belief that the income-consumption relationship was a highly stable one. Thus short-run fluctuations in consumption were explained almost completely by fluctuations in incomes. The predictive value of some of the statistical consumption-income relationships has been poorer than was expected. There are two ways in which research workers can then proceed. Either they can accept the all-pervading importance of

⁴ D. H. Fullerton and H. A. Hampson, *Canadian Secondary Manufacturing Industry*, Ottawa, 1957.

income as a determinant of consumption and seek to improve the measurement of the relationship between consumption and income, or they can introduce other variables as determinants of consumption. If the latter course is adopted, the problem becomes one of testing and estimating more complex economic relationships. Both avenues have been explored⁵. We simply want to point out again that our judgments about the long-run stability of the consumption-personal disposable income relationship by no means rule out the possibility of short-run instability in the relationship. As credit conditions, expectations about future prices and incomes, and the availability of new goods change, so will the short-run relationship between incomes and consumer spending. These problems, as well as the vast unexplored realms of consumption and economic growth, require much more work by Canadian economists.

⁵ See Milton Friedman, *A Theory of the Consumption Function*, mimeographed manuscript, New York, National Bureau of Economic Research, 1955.

APPENDICES

MEASUREMENT OF PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES

THE METHODS of measurement of total personal expenditure on consumer goods and services in Canada are set out in the national accounts publications of D.B.S.¹ This appendix is concerned with the main principles of measuring aggregate consumption expenditures in Canada and a few of the problems of interpreting trends from the available statistics; it is in no way a substitute for the Bureau's publication.

The personal sector includes associations of individuals; unincorporated businesses are not separated from the persons who own them. Personal expenditure includes all expenditure by the sector on consumer goods and services, including durable goods, but excluding the purchase of housing. The Bureau's publication defines the group thus²:

"This component comprises personal expenditure of Canadian residents, including implied expenditure out of income in kind, on consumer goods and services. All types of consumer durable goods are included. Purchases of houses, however, are regarded as capital goods, and are shown with the estimate of gross domestic investment. The rental value of owner-occupied houses is included, as are the operating costs of non-commercial institutions, . . . (such as universities and religious organizations), and all life insurance companies. The estimate includes expenditures of Canadian residents temporarily abroad and excludes expenditures of foreign residents temporarily in Canada. All expenditures that are regarded as business costs are excluded."

The estimates of total personal expenditures are derived mainly from benchmarks constructed from the decennial census, together with extrapolations from and interpolations between the benchmarks based on selected quarterly and annual information. In other words, the estimates of total expenditure are based primarily on what is called a retail sales method. For services, where retail sales information is not readily available, a series of direct and indirect measures are used.

The national accounts which have been published since 1941 are all based on the 1941 census; in other words the results of the 1951 census are not yet incorporated into the estimates. D.B.S. was kind enough to discuss

¹ D.B.S., *National Accounts, Income and Expenditure*, various issues; see particularly the 1926-50 volume.

² *National Accounts, 1926-50*.

their preliminary work on incorporating the 1951 census benchmarks into the national accounts; it is believed that this newer information will not make a large difference to the estimates of total consumer expenditure.

Since the data were published, it has been found that there was a significant underestimation of total personal expenditure between 1926 and 1932, more or less offsetting a significant overestimation of the gross domestic investment in new machinery and equipment³. Because of our special interest in the experience in the earlier peacetime full employment boom in Canada, we have adjusted the total consumption expenditures to correct for these errors; our figures should be looked upon as preliminary in this regard.

The measure of personal saving developed in the national accounts is one of the most difficult to interpret. First, personal saving is measured as the difference between independent estimates of personal disposable income and personal expenditure on consumer goods and services. The errors of measurement in each of the independent estimates may combine to give a somewhat irregular pattern of fluctuation in the estimated personal saving. Second, the business savings of unincorporated businesses, including farms, are part of the personal savings. Fluctuations in crops and in farm savings will lead to substantial fluctuations in the total of personal savings even though little fluctuation may take place in the non-agriculture sectors of the economy. Further, any trend of relative growth or decline in the importance of unincorporated relative to incorporated businesses will show up as trends in the ratio of personal savings to personal disposable income, though there may be no change in the actual savings behaviour of individuals or businesses. Third, net accumulations of consumer durable assets, such as automobiles and consumer durable goods, are not treated as savings of any kind in the economy. A trend toward consumers buying more durable goods and less housing would show up as less total saving in the economy. Fourth, saving in the form of owner-occupied housing is treated as business saving. When interpreting the financial position of households, one might want to treat such saving as very closely related to personal saving; after all, accumulation of equity in a house and accumulation of an equivalent retirement fund through annuities are close substitutes for one another in personal behaviour.

In judging the trends in personal saving and consumption in Canada we tried to take account of these various factors, at least in a rough qualitative way. We averaged the consumption-income or saving-income ratios over a number of years of relatively full employment. We adjusted the ratios for unusual accumulations of farm inventories. Improved estimation of trends in saving in the form of consumer durables must wait on development of estimates of the stock of consumer durables in Canada. Similarly, the stock of owner-occupied housing must be estimated to improve our understanding of this factor as an influence on personal saving.

³ See the discussion of the investment data in Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

Appendix B

MEASUREMENT OF THE DISTRIBUTION OF PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES

METHODS of measuring distribution of personal expenditure are discussed in the national accounts¹. This appendix is intended as a summary of the principles, together with comments on interpreting the published statistics and the accounts which underlie them.

In principle, the pattern of consumer expenditure may be analyzed in various ways, according to the type of consumption activity carried on, according to the industries and other sources from which the goods are derived, and so on. What is possible in practice depends on the methods used to estimate consumer expenditure. In Canada both the total and the distribution of such expenditures are measured mainly by the retail sales method; thus we can classify sales of goods at retail level, but we have a quite limited basis for studying the distribution of the value of consumer expenditure between the manufacture and marketing of goods, among various manufacturing industries and between imported and domestically produced goods. For at least part of their historical statistics the Americans are in quite a different position, as their estimates of consumption until 1947 are based on a commodity flow method. Estimates of the consumption of particular types of goods or services are built up from data on the production, import and export of the commodities, together with adjustments for inventories, commodity taxes and retail and wholesale margins. Each of the methods has its own attractions; a country which is using both has the best of all worlds. The retail sales method yields estimates very soon after the event, whereas the commodity flow method yields figures only a year or more after the event. The analysis possible from the commodity flow information is much broader than from the retail sales data. For one year, 1949, Canada has estimates based on both methods, the commodity flow information being developed as part of the Canadian input-output table for 1949².

¹ D.B.S., *National Accounts, Income and Expenditure*, various issues, but see particularly the 1926-50 volume.

² D.B.S., Reference Paper No. 72, Ottawa, 1956.

The main method of estimating the functional distribution of consumer expenditure in Canada is based on the decennial census and extrapolations and interpolations from these censuses. From the decennial census an estimate of the total retail sales to the personal sector is made, and this is broken down into a cross-classification by type of commodity and type of retail outlet. The classification by type of commodity provides the benchmark distribution of consumer expenditure. To complete the story, items which are not covered in the census of merchandising such as many services have to be estimated from other parts of the census; for example, the occupations and earnings volumes yield estimates of many of the service items. Between the census years a sample of retail sales by type of outlet is available, in some cases monthly, in other cases quarterly and yearly. For a large number of the categories of expenditure, these sales by store types are used to extrapolate or interpolate from the census benchmark estimate of personal expenditures on a particular class of goods. In some cases, a commodity flow method of estimation is used. In other cases, such as many services, sample data on the distribution of the labour force and rates of personal remuneration must be used.

As one gets further and further from the census benchmark, the extrapolations are liable to become less and less reliable. This is a serious problem in interpreting the published statistics, as the currently published data are based on the 1941 census. In other words the results of the 1951 census are not yet incorporated into the Canadian national accounts, in so far as the distribution of personal expenditure is concerned. D.B.S. was kind enough to make available the preliminary results of their revision of the national accounts, and we have in fact modified the published statistics in the light of these preliminary results. For this we must take complete responsibility and we must warn the reader that the revised statistics, when they appear, may differ from those which we have used.

There are no published breakdowns of the consumer expenditure prior to 1930. The published data for 1930-32 had to be adjusted to take account of the revision in the total consumer expenditure during these years. In adjusting the 1930 benchmarks and in building a distribution of consumer expenditure between 1926 and 1930, the Bureau provided a great deal of help. The principles used were essentially the same as those underlying the published breakdowns. Again, however, we will have to take the responsibility for the series; they are not official statistics.

NOTES ON CHAPTER 4

THIS APPENDIX consists of a few notes on concepts, information used, and judgments expressed in Chapter 4. First some general points. The concepts of personal expenditure used throughout the chapter were those developed in the Canadian national accounts, as they have been published in recent years. The only exception to this rule concerns shelter, where we have deducted the estimated landlord's fuel costs from the published estimate of expenditure on shelter, adding the fuel costs to the fuel item under household operation. We have taken advantage of the preliminary work of revision of Canada's national accounts, so that some of the figures used in this chapter will differ from the published data.

Since any particular references may be used in several sections of the chapter, the sources of information for each section have not been included in this appendix. The main sources have been placed in a classified bibliography to this study.

Food

Reference is made in the text to the service portion of restaurant meals, to the net value of food manufacturing for the Canadian market, to farm income from producing food for the Canadian market and to imports of food.

(a) Service Portion of Restaurant Meals

The published national accounts data include the total expenditure on restaurant meals among the personal expenditure on food. The purchase of restaurant meals involves an unusually large expenditure on services compared with other elements included in the expenditure on food. For some purposes we might wish to deduct the estimated service portion of expenditure on restaurant meals from the published expenditure figures. The available data are not very satisfactory. Those knowledgeable in the trade have suggested that 50% of the value of restaurant meals is represented by non-food costs. This is the basis of our adjustment.

(b) The Net Value of Food Manufacturing for the Canadian Market

For some purposes it is extremely useful to estimate the changes in the proportion of the expenditure on food which are due to the increase in the value added by commercial manufacturing of food. The net value of food manufacturing activities in Canada is the starting point for such an estimate. However, the manufacture of food in Canada is carried on partly for the domestic market and partly for the export market. The proportionate importance of these markets may change, so that the published data on the net value of food manufacturing activities in Canada may not even be a satis-

factory index of the growth in food processing for the domestic market. We have attempted to estimate the proportion of the net value of food manufacturing activities in Canada which is for the export market, deducting this from the total to obtain the net value of manufacturing for Canadian consumption. We divided the net value of manufacturing in the beverage industries, food canning and processing, the manufacture of dairy products, grain mills, meat packing and bakery production between the domestic and export markets on the basis of the ratio of the value of exports to the gross value of Canadian production in each industry.

(c) Farm Income from Supplying Food to the Canadian Market

We are also interested in estimates of the Canadian farm income from supplying food to the Canadian market, and the growth in this magnitude relative to the growth in Canadian personal expenditure on food. Gross farm income is received partly from export and partly from domestic products. One way of estimating that part received from domestic markets is to measure the export share and deduct this from the total. From the average farm cash income over a series of years we deducted the estimated farm value of exports of grains, meat and animals, cheese and other dairy products. The remainder is the farm cash income from supplying food to the domestic market. To this must be added the farm food income in kind, in order to have a measure comparable with the total personal expenditure on food, as the latter includes imputed items.

(d) Imports of Food Products

Estimates were developed in the study of Canada's imports prepared for the Commission by this author.

Tobacco

The assumptions underlying the forecast are:

- (a) The consumption (by weight) of all tobacco products other than cigars per adult will increase at a rate of 1% per annum compounded between 1955 and 1965 and 0.5% per annum between 1965 and 1980.
- (b) The proportion of this consumption in the form of manufactured cigarettes will be 87% by 1965 and 88% by 1980.
- (c) The per capita consumption of cigars will be 18 per annum by 1965 and 20 per annum by 1980.
- (d) 1949 prices are used to value the personal expenditure. It is assumed that the increased sales of cigarettes at carton prices will be just about offset by sales at prices which include increased provincial taxes.

Shelter

The usual way in which forecasts of the demand for housing are made is to estimate the probable family formation, to assume that there will be one more housing unit per additional family, and to add a certain number of

houses to make good depreciation, relocation of the population and decreases in the doubling-up of families which exists at the present time. To convert this to a value figure, an estimate of the average value of new housing units has to be made. This is probably the most reliable procedure available. However, for long-range economic forecasting, it is difficult to know what allowance to make for improved average quality of the housing. We believe that this is largely a function of the growth in income and the changes in the proportion of the household income devoted to shelter. In this study we attempted to estimate the increased personal expenditure on space rent. To relate this to the quality and quantity of new housing, a number of very tenuous steps must be made. First, depending on the level of interest rates and the age structure of the housing, there is a certain range of values of the stock of housing consistent with a given level of personal expenditure on shelter. Second, given stable prices, a specified growth in the value of the gross and net stock of housing, implies a certain range of possible values for the annual gross investment in housing. Given a set of prices for houses of various qualities, this implies a series of possible combinations of average quality and number of gross additions to the housing stock. We actually tried to go through these steps in the analysis. Though the range of uncertainty in the analysis is considerable, we are convinced that the levels of personal expenditure assumed in Chapter 4 will only be attained if there is a significant increase in the average quality of the Canadian stock of housing over the next 25 years.

Household Durable Goods, Autos and Sporting Equipment

In the United States, estimates have been made of the stock of capital held by persons in these forms; these show that such goods are one of the most rapidly growing parts of the community's wealth. Also, the growth in consumer debt is associated with, and is comparatively modest relative to, the average stock of such assets and the average levels of income. There is little published work on the stock of consumer durable assets in Canada, though there is no technical reason why usable estimates cannot be made. The methods to be used are similar to those used to estimate the stock of industrial capital in the Commission's study of output, labour and capital in the Canadian economy. The estimates were not made in this study of consumption expenditures because of the time which they would have taken. However, the pattern of acquisition of durable goods in Canada and in the United States is sufficiently similar that we can have confidence in the view that a rapid growth in the gross and net stock of such durables has taken place in Canada during the last 30 years, but particularly during the last ten years. The development of estimates of the stock of consumer durables in Canada ought to have rather high priority in our economic research work, as such data will facilitate studies of consumer credit, and of replacement cycles in the demand for durables. It is with some regret that we had to rule out such a study in this essay.

Appendix D

DETAILS OF AGGREGATE AND PER CAPITA PERSONAL EXPENDITURE IN CURRENT AND CONSTANT DOLLARS

	(1) 1926-29 average	(2) Aggregate expenditure in millions (1949) constant \$	(3) Aggregate expenditure in millions current \$	(4) 1952-55 average	(5) Constant (1949) dollars	(6) Current dollars	(7) 1926-29 average	(8) 1952-55 average	(9) 1926-29 average	(10) 1952-55 average
1. Purchased food.....	1,309.9	2,938.8	864.4	3,330.1	224.4	385.2	134.5	195.8	88.8	221.8
2. Meals, restaurant.....	267.1	415.2	179.2	490.4	155.4	273.7	27.4	27.7	18.4	32.7
3. Farm food.....	160.4	186.4	127.3	195.1	116.2	153.3	16.5	12.4	13.1	13.0
4. Armed forces and other food.....	24.9	71.7	16.3	84.1	288.0	118.4	2.6	4.8	1.7	5.6
5. Total food.....	1,762.3	3,612.2	1,187.2	4,099.7	204.9	345.4	181.0	240.6	121.9	273.1
6. Tobacco products.....	143.1	437.4	99.0	458.0	305.7	462.6	14.7	29.1	10.2	30.5
7. Alcoholic beverages.....	175.8	726.8	127.2	802.8	413.4	631.1	18.1	48.4	13.1	53.5
8. Clothing.....	715.0	1,426.6	545.3	1,550.4	200.0	307.2	73.4	95.0	56.0	103.3
9. Jewellery.....	44.9	98.3	37.0	105.7	218.9	285.7	4.6	6.5	3.8	7.0
10. Clothing etc. services.....	60.6	130.5	45.7	176.7	215.3	1,271.6	6.2	8.7	4.7	11.8
11. Total clothing and personal furnishings.....	820.5	1,655.4	618.7	1,832.6	201.8	296.2	84.3	110.3	63.5	122.1
12. Fuel purchased.....	179.7	372.6	120.4	428.6	207.3	356.0	18.5	24.8	12.4	28.6
13. Electricity.....	22.4	133.9	30.8	153.2	597.8	497.4	2.3	8.9	3.2	10.2
14. Gas.....	19.7	38.1	19.3	42.5	193.4	220.2	2.0	2.5	2.0	2.8
15. Telephone.....	36.4	130.1	30.5	167.2	357.4	548.2	3.7	8.7	3.1	11.1
16. Soap and cleaning supplies.....	33.0	54.1	25.0	62.0	163.9	248.0	3.3	3.6	2.6	4.1
17. Household supplies.....	43.1	78.4	26.3	94.8	181.9	360.5	4.4	5.2	2.7	6.3
18. Home furnishings.....	79.8	182.9	56.7	215.2	229.2	379.5	30.1	51.2	5.8	14.3
19. Furniture.....	94.8	218.1	53.8	254.2	230.0	472.5	9.7	14.5	5.5	16.9
20. Household appliances and radios.....	118.7	1,463.4	80.5	396.6	232.9	492.7	12.2	97.5	8.3	26.4
21. Domestic services.....	142.7	50.6	71.1	61.4	35.5	86.4	14.7	3.3	7.3	4.1
22. Radio appliances, upholstery and repairs.....	12.1	25.9	5.6	33.6	214.0	600.0	1.2	1.7	0.6	2.2
23. Moving expenses.....	6.5	3.8	3.0	4.9	58.5	163.3	0.7	0.3	0.3	0.3
24. Theft, personal property insurance.....	0.5	10.9	0.3	12.9	2,180.0	333.3	0.05	0.7	0.03	0.9
25. Total household operation.....	789.3	1,664.8	523.3	1,927.0	210.9	368.3	81.1	109.6	53.7	128.4

DETAILS OF AGGREGATE AND PER CAPITA PERSONAL EXPENDITURE IN CURRENT AND CONSTANT DOLLARS (Continued)

	(1) 1926-29 average	(2) 1952-55 average	(3) Aggregate expenditure in millions constant \$	(4) Aggregate expenditure current \$	(5) 1952-55 average as % of 1926-29 average	(6) Current dollars	(7) 1926-29 average	(8) 1952-55 average	(9) 1926-29 average	(10) 1952-55 average
26. Rents paid.....	249.0	507.5	208.5	744.3	203.8	357.0	25.6	33.8	21.4	49.6
27. Rents imputed.....	405.8	743.1	339.7	1,091.4	183.1	321.3	41.7	49.5	34.9	72.7
28. Imputed lodging.....	9.4	15.8	7.9	23.1	168.0	292.4	1.0	1.1	0.8	1.5
29. Lodging expenses (net).....	110.8	131.6	69.4	154.9	118.8	223.2	11.4	8.8	7.1	10.3
30. Lodging in universities.....	1.4	3.0	0.8	3.6	214.2	450.0	0.1	0.2	0.08	0.2
31. Total shelter.....	776.4	1,401.1	626.2	2,017.2	180.5	322.1	79.7	93.3	64.3	134.4
32. Autos, new and second hand.....	262.9	804.6	115.8	912.0	306.0	786.2	27.0	53.6	11.9	60.7
33. Gas, oil, grease.....	81.0	404.9	62.3	434.3	500.0	700.0	8.3	27.0	6.4	28.9
34. Auto parts and accessories.....	32.0	83.9	31.7	113.8	262.2	358.0	3.3	5.6	3.3	7.6
35. Transport user repair etc.....	37.3	134.4	23.1	164.6	360.3	712.5	3.8	9.0	2.4	11.0
36. Transport purchased.....	140.9	256.0	132.2	322.1	181.7	243.6	14.5	17.1	13.6	21.5
37. Total transportation.....	554.0	1,683.8	359.9	1,941.4	303.9	539.4	56.9	112.1	37.0	129.3
38. Drugs and cosmetics.....	82.7	274.5	72.3	305.6	331.9	422.7	8.5	18.3	7.4	20.4
39. Barber shop, misc. pers. service.....	51.9	87.3	31.2	122.7	168.2	688.9	5.3	6.6	3.2	8.2
40. Medical care and death expenses.....	222.5	553.8	171.2	691.1	248.9	403.7	22.8	36.9	17.6	46.0
41. Total personal and medical care.....	357.1	927.7	274.6	1,119.4	259.8	407.6	36.8	61.8	28.2	74.6
42. Recreation.....	84.4	189.5	73.5	235.5	221.9	320.4	8.8	12.6	7.5	15.7
43. Education.....	48.3	82.3	27.3	100.0	170.4	366.3	5.0	5.5	2.8	6.7
44. Stationery, newspapers, magazines.....	48.8	145.2	30.8	145.0	297.5	470.8	5.0	9.7	3.2	9.7
45. Express.....	2.9	55.5	2.8	7.0	1,913.7	250.0	0.3	3.7	0.3	0.5
46. Postage, postal service, cables, telegrams.....	24.9	40.9	20.8	52.5	164.2	465.4	2.6	2.6	2.1	3.5
47. Miscellaneous services.....	237.3	469.5	175.3	629.5	197.9	359.0	24.4	31.3	18.0	41.9
48. Miscellaneous goods.....	128.9	261.0	84.5	307.2	202.5	365.4	13.2	17.3	8.7	20.5
49. Net expenditure abroad.....	-67.8	92.5	-54.3	+102.6	136.4	—	7.0	6.2	-5.6	6.8
50. Misc. invest. income to abroad.....	7.9	34.3	5.3	4.1	434.1	77.4	0.8	2.4	0.5	0.3
51. Miscellaneous.....	516.6	1,289.4	366.0	1,583.4	249.5	432.6	53.0	85.9	37.6	105.5
52. Grand total—personal expenditures.....	5,896.6	13,396.0	4,188.1	15,804.1	227.1	377.4	605.5	892.2	430.1	1,052.8

* Revised estimates of personal expenditure have been used. See Appendix A.

NOTE: Items do not always add precisely to totals due to rounding of figures.

SOURCE: See Appendix B.

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¹ This is one of a series of three studies on Canadian international economic relations prepared under the direction of S. S. Reisman.

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Note: In the summer of 1956, the first volumes of the University of Pennsylvania — B.L.S. study of consumer expenditures in the United States, based on the 1950-51 surveys in the United States, came available. This was too late for us to use the material. This is a most important source for future work. For an early discussion of the work see *Business Week*, June 16, 1956.

See also the references to Clark, Kuznets and Goldsmith in Section I of this bibliography and see references to Stone, Bennett, Davis, Dewhurst, Kravis and Woytinsky in Section II of this bibliography.

(b) *General Data on the Level of Consumption Expenditures and Savings and the Distribution of Personal Expenditure in Canada.*

D.B.S., *Family Income and Expenditure in Canada, 1937-38*, Ottawa, 1941.

D.B.S., *Canadian Non-Farm Family Expenditure, 1947-48*, Reference Paper No. 42, Ottawa, 1953.

D.B.S., *City Family Expenditure, 1953*, Reference Paper No. 64, Ottawa, 1955.

D.B.S., *National Accounts, Income and Expenditure*, various issues. See particularly the Accounts for 1926-50 and the Accounts for 1950-55.

D.B.S., *Canadian Statistical Review*, various issues, Ottawa.

D.B.S., *The Inter-Industry Flow of Goods and Services, Canada, 1949*, Reference Paper No. 72. Ottawa, 1956.

Wm. C. Hood and Anthony Scott, *Output, Labour and Capital in the Canadian Economy*, Ottawa, 1957.

J. H. Young, *Canadian Commercial Policy*, Ottawa, 1957. This study for the Commission contains a very careful comparison of the prices of many consumer goods in Canada and the United States.

See also reference to Humphrey in Section I (c), to Kravis in Section II (b) and to Due in Section III (a).

IV. *Data and Studies on Particular Categories of Expenditure*

To list all the references consulted or pertinent to the study of particular categories of expenditure would lead to an intolerably long list. We have listed a few items which were particularly helpful for each category. We

have not listed many of the D.B.S. publications, though they were used a great deal. They are catalogued by the Bureau, and we simply refer the reader to their lists. Some sources were used in connection with many categories of expenditure, including the Dewhurst and Woytinsky studies noted in Section II (b).

(a) *Services*

G. J. Stigler, "Domestic Servants in the United States, 1900 to 1940", *Occasional Paper No. 24, The National Bureau of Economic Research*, New York, 1946.

R. Ferber, "Expenditures for Services in the United States: Their Growth and Some Factors Influencing Them", *Conference on Consumption and Economic Development*, New York, The National Bureau of Economic Research, 1955.

Bank of Montreal, *The Service Industries*, study prepared for the Royal Commission on Canada's Economic Prospects, Ottawa, 1957.

See also Clark, referred to in Section I (b).

(b) *Food*

J. D. Black, "Agriculture in the Nation's Economy", *American Economic Review*, March, 1956.

D.B.S., "Apparent Per Capita Disappearance of Food in Canada", *Canada Yearbook* and separate memoranda, various years. This publication provides the basic information on the volume of various kinds of food consumed in Canada.

D.B.S., *Urban Family Food Expenditure, 1953*. Reference Paper No. 60, Ottawa, 1955.

W. M. Drummond and W. Mackenzie, *Progress and Prospects of Canadian Agriculture*, Ottawa, 1957. A study prepared for the Commission.

Karl A. Fox, "Structural Analysis and the Measurement of Demand for Farm Products", *Review of Economics and Statistics*, 1954.

M. A. Girshick and T. Haavelmo, "Statistical Analysis of the Demand for Food", *Econometrica*, 1947.

W. Mackenzie, "Possible Trends in the Demand for Canadian Farm Products", *Canadian Journal of Agricultural Economics*, 1955.

T. W. Schultz, *The Economic Organization of Agriculture*, New York, McGraw-Hill, 1953.

U.S. Department of Agriculture, *Consumption of Food in the United States, 1909-48*, Miscellaneous Publications, No. 691; see also continuations to more recent years.

See also the article by Houthakker and Tobin listed in Section II (c), and by Tobin, listed in Section II (c).

(c) *Tobacco and Alcoholic Beverages*

Merrill Denisson, *Barley and the Stream*, Toronto, McLelland and Stewart, 1955.

Canada: Restrictive Trade Practices Commission, *Report Concerning an Alleged Combine in the Manufacture, Distribution and Sale of Beer in Canada*, Ottawa, 1955.

David W. Slater, *The Taxation and Consumption of Tobacco Products in Canada*, studies prepared in 1953, 1954, 1955 and 1957 for the Flue-Cured Tobacco Marketing Association of Ontario, Simcoe, Ontario. Tobacco Tax Council, *Cigarette Taxes in the United States*, Richmond, Virginia, 1955.

(d) *Clothing and Personal Furnishings*

Gilbert Jackson and Associates, *Consumption of Primary Textiles and the National Income*, Research Memorandum No. 6, Toronto, February, 1945.

Manual of the Textile Industry, 1954.

National Industrial Conference Board (Canadian Office), *The Canadian Primary Textiles Industry*, study prepared for the Royal Commission on Canada's Economic Prospects, Ottawa, 1957.

Primary Textiles Institute, *Brief to the Royal Commission on Canada's Economic Prospects*, Montreal, 1956.

Royal Commission on Textiles, *Report*, Ottawa, 1938.

(e) *Shelter*

Central Mortgage and Housing Corporation, *Housing and Urban Growth in Canada*, Brief to the Commission, Ottawa, March 1956.

Central Mortgage and Housing Corporation, *Canadian Housing Statistics, quarterly*, Ottawa.

Y. Dubé, J. E. Howes and D. L. McQueen, *Housing and Social Capital*, study prepared for the Commission, Ottawa, 1957.

O. J. Firestone, *Residential Real Estate in Canada*, Toronto, University of Toronto Press, 1952.

D. L. Wickens, *Residential Real Estate*, New York, National Bureau of Economic Research, 1941.

Louis Winnick, "Housing: Has There been a Downward Shift in Consumers' Preferences?" *Quarterly Journal of Economics*, February, 1955.

(f) *Household Operation*

Clarence L. Barber, *The Canadian Electrical Manufacturing Industry*, study prepared for the Royal Commission on Canada's Economic Prospects, Ottawa, 1957.

D.B.S., *Household Facilities and Equipment, Surveys*, September, 1955. September, 1953, September, 1951, Ottawa. See also the Decennial Census of Canada, for 1941 and 1951.

U.S., The President's Materials Policy Commission (Paley Report), *Resources for Freedom*, Vol. II, Washington, June, 1952.

John Davis, *Canadian Energy Prospects*, study prepared for the Royal Commission on Canada's Economic Prospects, Ottawa, 1957.

(g) *Personal Transportation, including the Purchase and Operation of Automobiles.*

The Bank of Nova Scotia, "The Canadian Market for Automobiles", *Monthly Review*, August, 1955.

K. W. Boulding, "An Application of Population Analysis to the Automobile Population of the United States", *KYKLOS*, Vol. VIII, 1955.

John Davis, *Canadian Energy Prospects*, Ottawa, 1957.

J-C. Lessard, *Transportation in Canada*, a study prepared for the Royal Commission on Canada's Economic Prospects, Ottawa, 1957.

C. F. Roos and V. Von Szeliski, "Factors Governing Changes in Domestic Automobile Demand", in *The Dynamics of Automobile Demand*, New York, 1939.

The Sun Life Assurance Company of Canada, *The Canadian Automotive Industry*, a study prepared for the Royal Commission on Canada's Economic Prospects, Ottawa, 1957.

See also briefs to the Commission by the British American Oil Company, the Ford Motor Company of Canada, General Motors Corporation of Canada, The Imperial Oil Company, and the Rubber Manufacturers' Association of Canada. On rail and air transport see the briefs to the Commission by the Canadian National Railways, the Canadian Pacific Railway, Canadian Pacific Airlines and Trans-Canada Air Lines.

(h) *Medical Care*

Note: The Research Division of the Department of National Health and Welfare has prepared a number of excellent studies in this area in recent years. Consult their catalogues; only one of their publications is listed below, but many were consulted.

Department of National Health and Welfare; *Health Care in Canada, Expenditure and Sources of Revenue, 1953*, Research Division, Memorandum No. 12, Research Division, Ottawa, 1955.

See also the study on housing and social capital noted in Section IV (d), the study of the service industries, noted in Section IV (a), and the Canadian surveys of family expenditures, listed in Section III (b).

(i) *Other Items of Expenditure*

See the studies of housing and social capital and the service industries for discussions of education, recreation, and travel. See the *Canadian Balance of International Payments* for estimates and discussions of international tourist travel.





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